

Work Order ID 115449

115449

Page 1

Wednesday, April 02, 2014 7:15:56 AM

Item ID: 647.9311

Revision ID:

Item Name: Support Bracket

Start Date: 4/2/2014 Start Qty: 6.00

Required Date: 4/30/2014 Req'd Qty: 6.00

Reference:

Accept

N900040100

Setup Start ***NS1***

Stop ***NS2***

Cust Item ID:

Customer:

Approvals: Process Plan: CZ Date: 14/02/02 Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr								
647.8900	647.9300	Rev. NC							
100			0.00						

100

Bandsaw
Jeaspa Bandsaw

Memo
CUT AT 17'00" LONG

N/A

110

110

Outsource5
Outsource process - Machining

Memo
ISSUE P/O: 23719
POSSIBLE SUPPLIER: ATC
E.T.M
Certificate of conformaty required

14/4/9

115

115

Packaging
Packaging

Receive & Inspect for Damage & Mat'l Certs 0.00

Memo 0.00

14/7/15 (6)

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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Work Order ID 115449

Wednesday, April 02, 2014 7:15:56 AM

115449

Page 2

Item ID: 647.9311

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Support Bracket

Stop

NS2

Start Date: 4/2/2014 Start Qty: 6.00

6

Cust Item ID:

Required Date: 4/30/2014 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

117

QC6- Inspect dimensions to drawing

0.00

117

QC

Memo

0.00

Quality Control

118

118

HandFinish

Hand Finishing

Memo

REMOVE ALL PART MARKINGS

0.00

0.00

120

Outsource process-Anodize per Q81017 4.1.10.1

0.00

120

Outsource4

Outsource process - Anodize

Memo

Issue P/O to ATG :

0.00

1- Black Anodize as per Dwg 647.9300

2- PRIME AS PER DWG, SEE NOTE #2

Certification of Comformity is required

14/7/17

N/A

6

CL 14/07/17

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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Work Order ID 115449

Wednesday, April 02, 2014 7:15:56 AM

115449

Page 3

Item ID: 647.9311

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Support Bracket

Start Date: 4/2/2014 Start Qty: 6.00

6

Cust Item ID:

Required Date: 4/30/2014 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

Receive & Inspect for Damage & Mat'l Certs

0.00

130

Packaging

Memo

0.00

Packaging

140

QC5- Inspect part completeness to step on W/O

0.00

140

QC

Memo

0.00

Quality Control

170

Identify as per dwg & Stock Location: _____ 0.00

170

Packaging

Memo

0.00

Packaging

Identify as per MPP-120

CL 14/07/18

14/1/18 (6) DAS 32 8-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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Work Order ID 115449

Wednesday, April 02, 2014 7:15:56 AM

115449

Page 4

Item ID: 647.9311

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Support Bracket

Start Date: 4/2/2014 Start Qty: 6.00

6

Cust Item ID:

Required Date: 4/30/2014 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Memo

0.00

Quality Control

MLJ 14-07-25

④ 4-7-18

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
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Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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Picklist Print

Wednesday, April 02, 2014 7:15:55 AM

Page 1

Work Order ID: 115449

115449

Parent Item: 647.9311

647.9311

Parent Item Name: Support Bracket

Start Date: 4/2/2014

Required Date: 4/30/2014

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP REV:A NEW ISSUE 14-04-01 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M7075T6B1.750X02.25 0		Purchased	No.				f	12.5000		9			

M7075T6B1.750X02.250

7075-16 BAR 1.750" X 2.250"

Location

MAT001

123418

M128502

Loc Qty

12.5

0.5

12

Loc Code

647.9311 P

X 6

P44/2/15 (6)

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence
		<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 04249				SHEET 1 OF 1	
	DWG NO. 647.9300	REV: NC	PREPARED BY J. SOTO	DATE: 11/14/2013	EFFECT ON DWG <input type="checkbox"/> INC. <input checked="" type="checkbox"/> UNINC.	
	DWG TITLE: BRACKETS					
	APPROVED BY: ENGR <i>[Signature]</i>	MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF. NEXT ORDER		
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE	REASON: REVISED NOTE 4				ECR: 13-037	

SHEET 1, ZONE A1 IS:

NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12.
2. FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR: BLACK;
PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J TYPE I, CLASS N.
3. DEBURR AND BREAK ALL SHARP EDGES.
4. IDENTIFY IAW MPP-120.
5. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9310 LH BRACKET.SLDPR, LAST MODIFIED 06-22-10.
6. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9311 SUPPORT BRACKET.SLDPR, LAST MODIFIED 06-22-10.
7. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9312 BRACKET.SLDPR, LAST MODIFIED 06-22-10.
8. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9313 BRACKET.SLDPR, LAST MODIFIED 06-22-10.
9. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9314 RETAINER BRACKET.SLDPR, LAST MODIFIED 09-26-11.
10. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9315 RECEPTACLE BRACKET.SLDPR, LAST MODIFIED 11-16-12.
11. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9316 CROSSBAR BRACKET.SLDPR, LAST MODIFIED 06-22-10.
12. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9317 RH BRACKET.SLDPR, LAST MODIFIED 06-22-10.

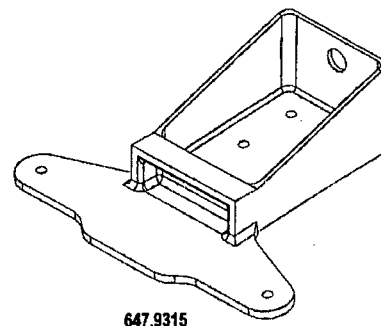
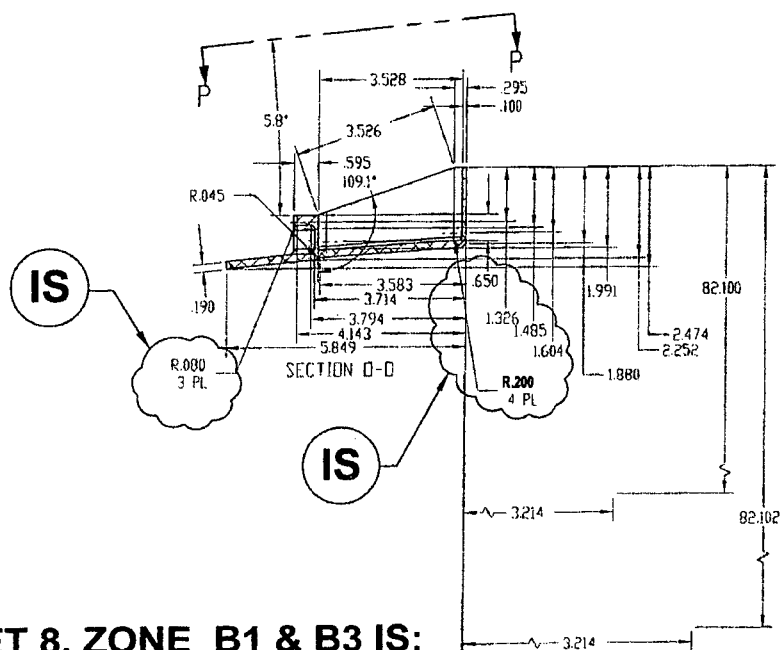
CG 11/10/109
W/O: 115449

DOCUMENTS EFFECTED:	<input type="checkbox"/> MDL <input type="checkbox"/> INSTALL INSTRUCTIONS <input type="checkbox"/> ICA <input type="checkbox"/> FMS <input type="checkbox"/> BOM	CHANGE CATEGORY <input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR	DER REVIEW REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
---------------------	---	---	--

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 03706				SHEET 1 OF 2	
	DWG NO. 647.9300	REV: N/C	PREPARED BY B. PETERS	DATE: 11/16/12	EFFECT ON DWG <input type="checkbox"/> INC. <input checked="" type="checkbox"/> UNINC.	
	DWG TITLE: BRACKETS					
APPROVED BY: ENGR <i>[Signature]</i>		MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFFECT: NEXT ORDER		
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE		REASON: REVISED RADII ON 647.9315.				EFFECT: D-12-012

SHEET 1, ZONE B4, NOTE 10 IS:

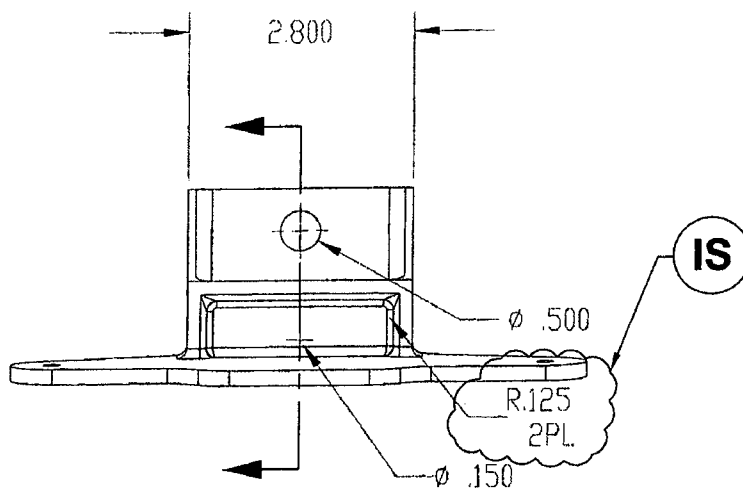
10 PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9315 RECEPTACLE BRACKET.SLDPRJT, LAST MODIFIED 11-16-12.



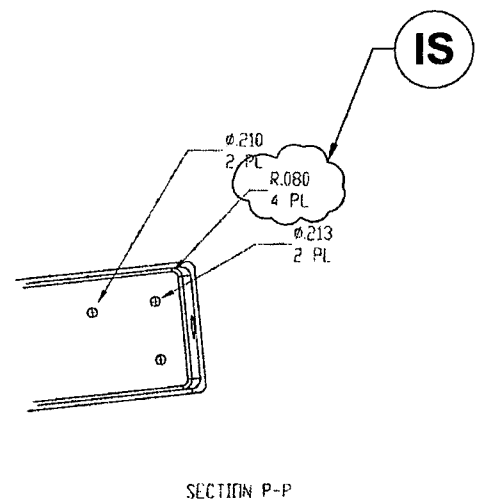
SHEET 8, ZONE A7 IS:

SHEET 8, ZONE B1 & B3 IS:

DOCUMENTS EFFECTED:	<input type="checkbox"/> RFMS <input type="checkbox"/> MDL <input type="checkbox"/> INSTALL INSTRU <input type="checkbox"/> ICA <input type="checkbox"/> BOM	CHANGE CATEGORY: <input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR	DER REVIEW REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
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SHEET 8, ZONE B6 IS:



SHEET 8, ZONE B8 IS:

F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION
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APICAL
INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO. 03209

SHEET 1 OF 2

DWG NO. 647.9300

REV: N/C

PREPARED BY A. QIAN

DATE: 11/09/11

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: BRACKET

APPROVED BY:

ENGR

MFG

QC

EFF:

CURRENT ORDER AND STOCK

TRANSACTION CODES (TC)	
A-ADD	C-CREATE
R-REVISE	D-DELETE

REASON: REVISED HOLE LOCATIONS ON 647.9314, ADDED HOLE 647.9315

SHEET 1, ZONE B3:

NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12

2. FINISH: HARD ANODIZE IAW N1-A-6625 TYPE III, CLASS 2, COLOR: BLACK;
PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW N1-P-23377J TYPE I, CLASS N

3. DUBBRO AND BREAK ALL SHARP EDGES

4. IDENTIFY JAW HWT-120 LASER ENGRAVE, CENTURY GOTHIC, 12 POINT P/W AND REVISION

5. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 6479310 LW BRACKET SLEPRT, LAST MODIFIED 06-22-10

△ PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 6479311 SUPPORT BRACKET SLOPRI, LAST MODIFIED 06-22-10

2 PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: G679312-BRACKET.SHPRT, LAST MODIFIED 06-22-10

△ PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 6479313 BRACKET.SHPRT, LAST REVISED 06-22-91

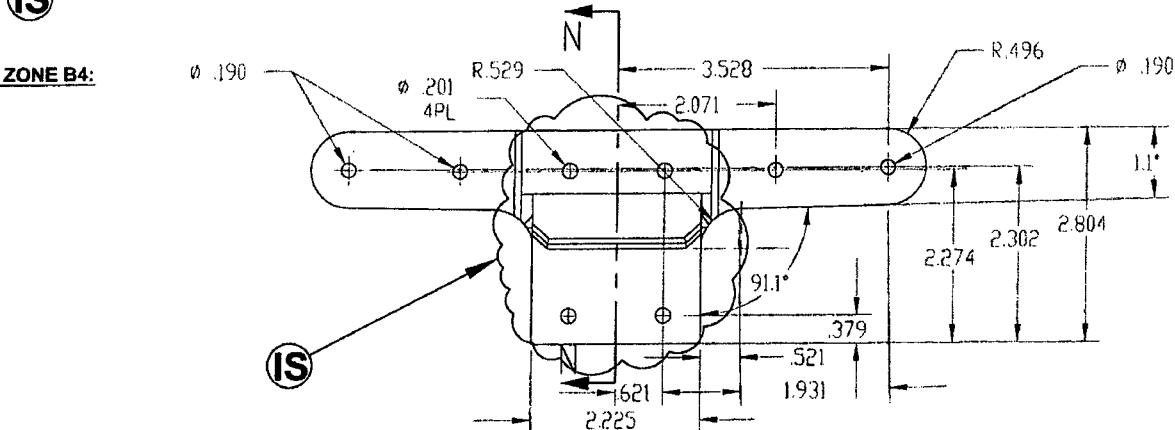
9. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 6479314 RETAINER BRACKET.SLDMPRT, LAST MODIFIED 09-26-11

10. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 6429315 RECEPTACLE BRACKET SUBPT. LAST MODIFIED 10-19-1

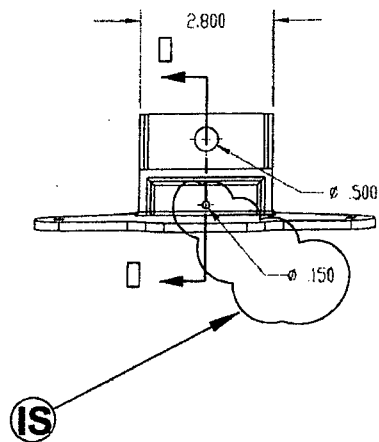
ALL PART DIMENSIONS CONTROLLED BY CND MTRL FILE: 6479316 LAGSBAR BRACKET SLDRPT. LAGS: 1101-110 05-22-10

△ PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 6479317 RH BRACKET.SLDPRT, LAST MODIFIED 06-22-10

SHEET 7, ZONE B4:



F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL	SPECIFICATION
DOCUMENTS EFFECTED:				<input type="checkbox"/> MDL <input type="checkbox"/> INSTALL INSTRUC <input type="checkbox"/> ICA <input type="checkbox"/> BOM	CHANGE CATEGORY <input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR	DER REVIEW REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

SHEET 8, ZONE B5:

F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL	SPECIFICATION

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NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12.
2. FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR: BLACK; PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377 J TYPE I, CLASS N.
3. DEBURR AND BREAK ALL SHARP EDGES.
4. IDENTIFY IAW MPP-120. LASER ENGRAVE CENTURY GOTHIC, 12 POINT P/N AND REVISION.
5. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9310 LH BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
6. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9311 SUPPORT BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
7. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9312 BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
8. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9313 BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
9. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9314 RETAINER BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
10. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9315 RECEPTACLE BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
11. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9316 CROSSBAR BRACKET.SLDPRT, LAST MODIFIED 06-22-10.
12. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9317 RH BRACKET.SLDPRT, LAST MODIFIED 06-22-10.

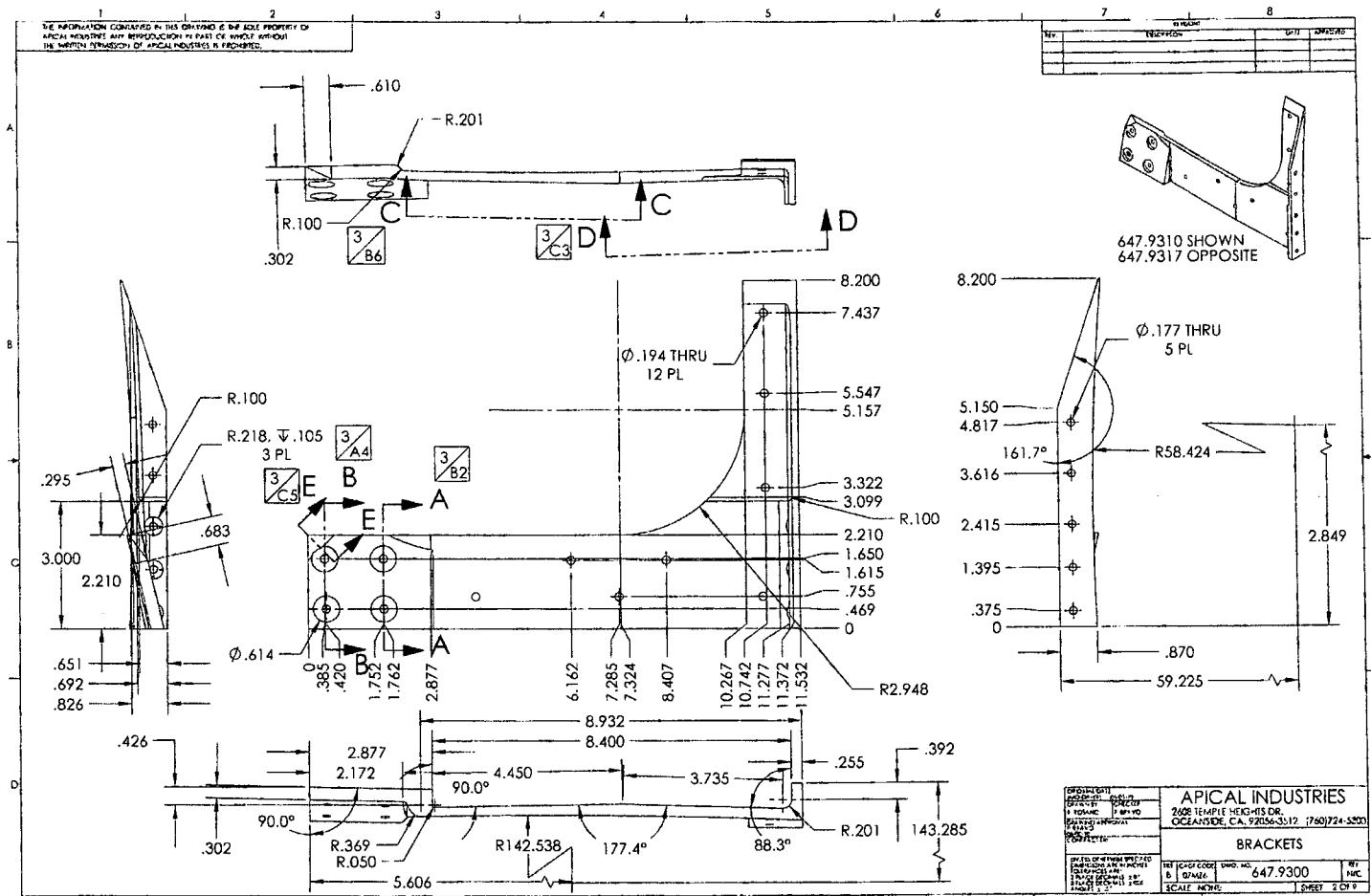
UNINCORPORATED ECN(s)

03209, 03706, 04249

647.9317	RH BRACKET	△	△	△
647.9316	CROSSBAR BRACKET	△	△	△
647.9315	RECEPTACLE BRACKET	△	△	△
647.9314	RETAINER BRACKET	△	△	△
647.9313	BRACKET	△	△	△
647.9312	BRACKET	△	△	△
647.9311	SUPPORT BRACKET	△	△	△
647.9310	LH BRACKET	△	△	△
FIND #	PART #	DESCRIPTION	MAT'L	SPEC.
QTY	PARTS LIST			
NEXT ASSY IS	APICAL INDUSTRIES			
647.9300	2609 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512 (760) 724-5000			
	BRACKETS			
	DATE OF CHANGE	DATE NO.	647.9300	11-
	BY	8 DIMS		11C
	SCALE	NONE		SHEET 1 OF 9

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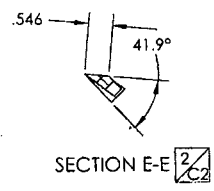
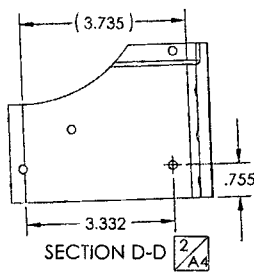
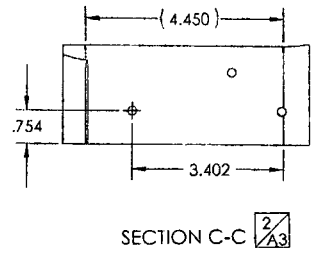
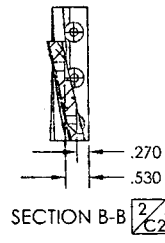
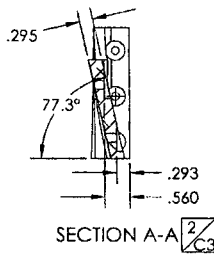
REV	DESCRIPTION	DATE	APPROVED



PREPARED BY: [] CHECKED BY: [] DESIGNED BY: [] DRAWN BY: [] SCALE: [] SHEET: [] OF []	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANOIDE, CA. 92056-3512 (760) 724-3200 BRACKETS 647.9300 SCALE: NONE
---	---

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES AND REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

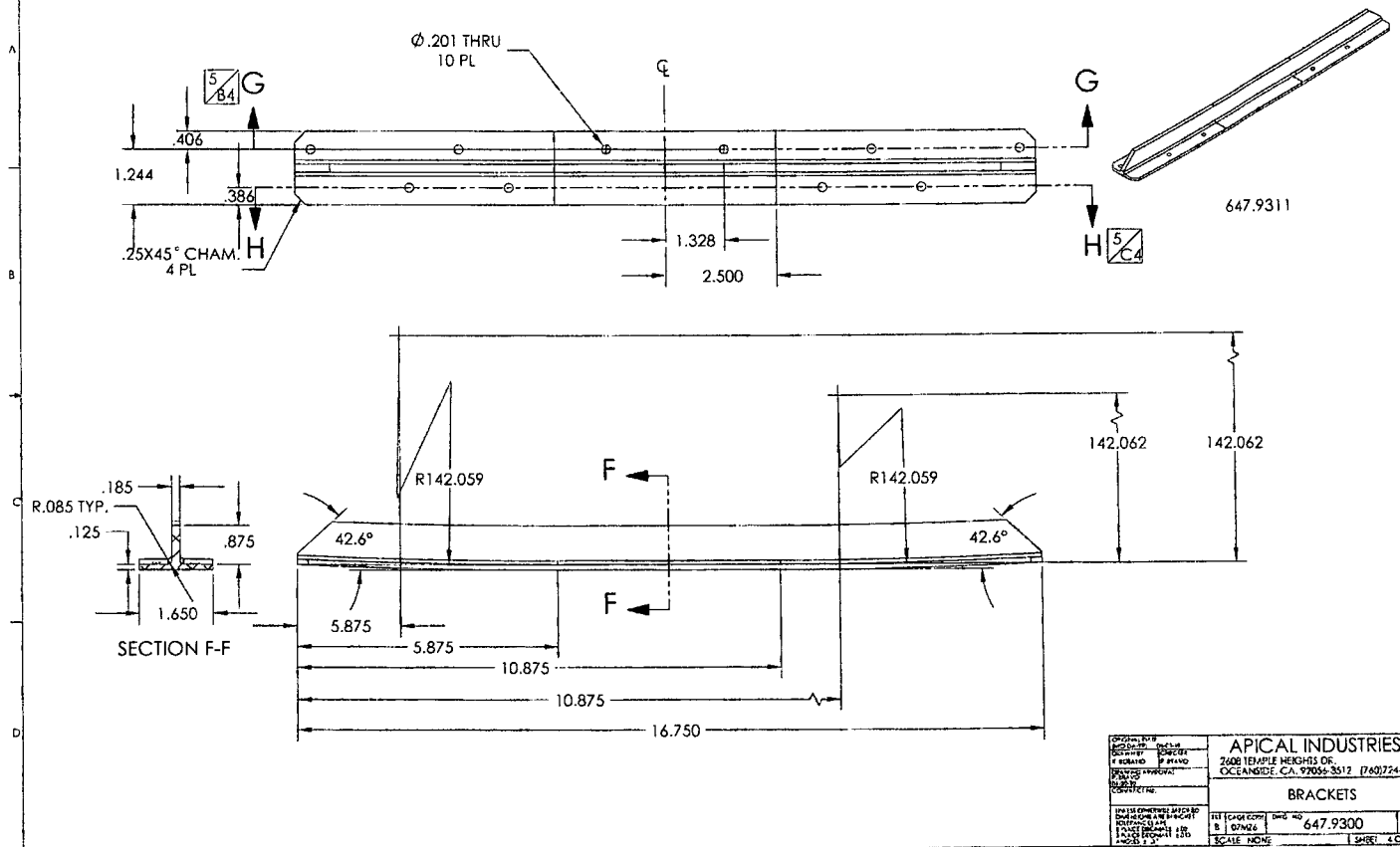
REV.	DESCRIPTION	DATE	APPROVED



APICAL INDUSTRIES 2400 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3312 (760) 724-5300	
BRACKETS	
DATE: 01/01/00 DRAWN BY: J. B. BROWN CHECKED BY: J. B. BROWN SCALE: NONE	REV. NO. 1 DATE: 01/01/00 BY: J. B. BROWN SHEET 3 OF 9

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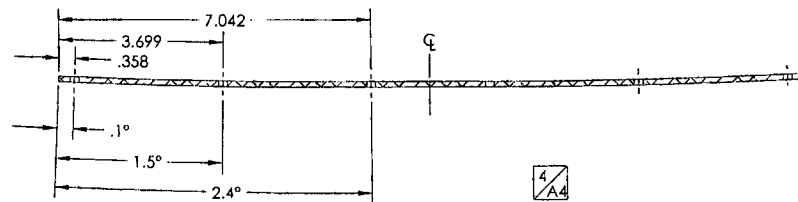
REV.	DESCRIPTION	BY	DATE



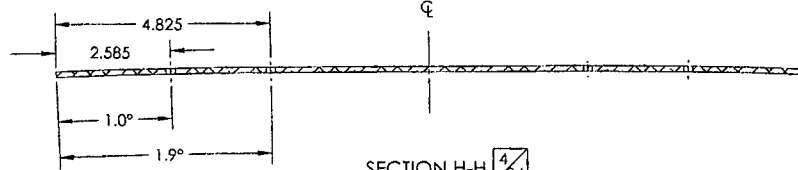
APICAL INDUSTRIES 2408 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92055-3512 (760) 724-5300	BRACKETS
647.9300	8 1/2" DIA.
SCALE: NONE	SHEET: 4 OF 9

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

REV	DESCRIPTION	DATE	BY



SECTION G-G



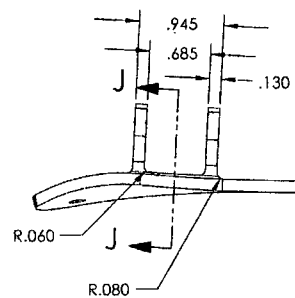
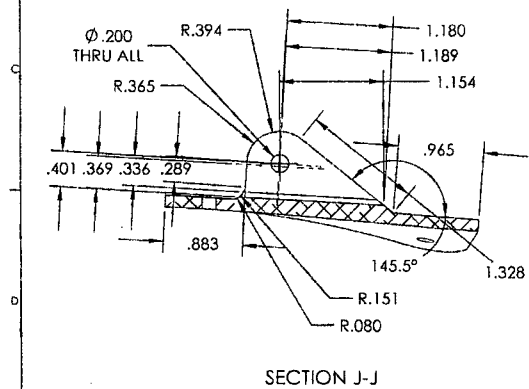
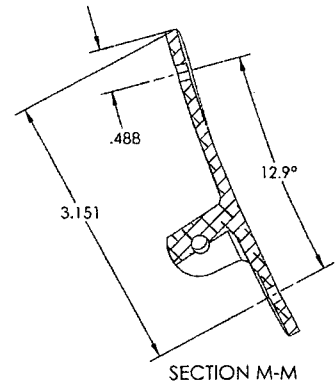
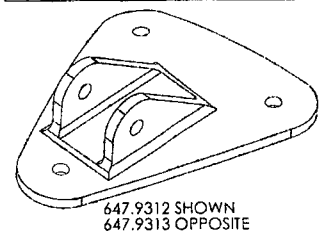
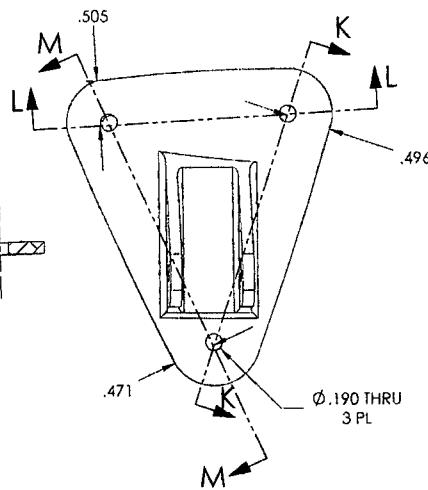
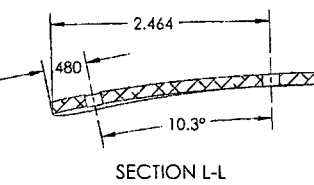
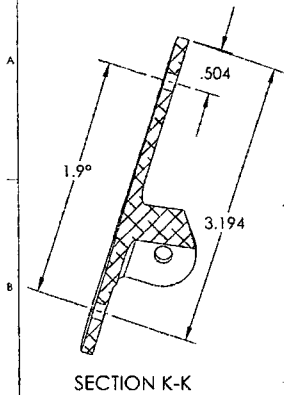
SECTION H-H



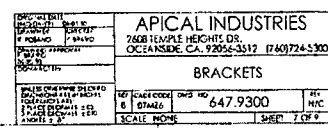
DESIGNED BY CHECKED BY DRAWN BY DATE SCALE SHEET NO.	APICAL INDUSTRIES 2609 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300 BRACKETS 647.9300 SCALE: NONE SHEET 3 OF 9
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REV.	DESCRIPTION	DATE	APPROVED

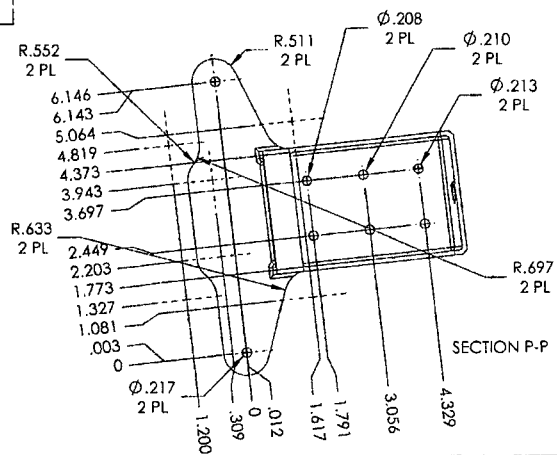
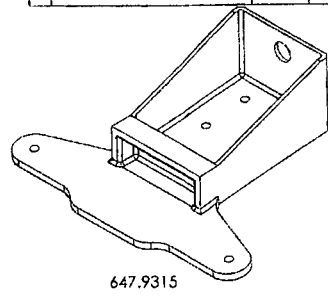
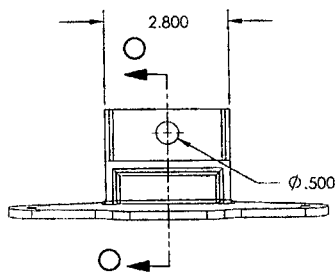
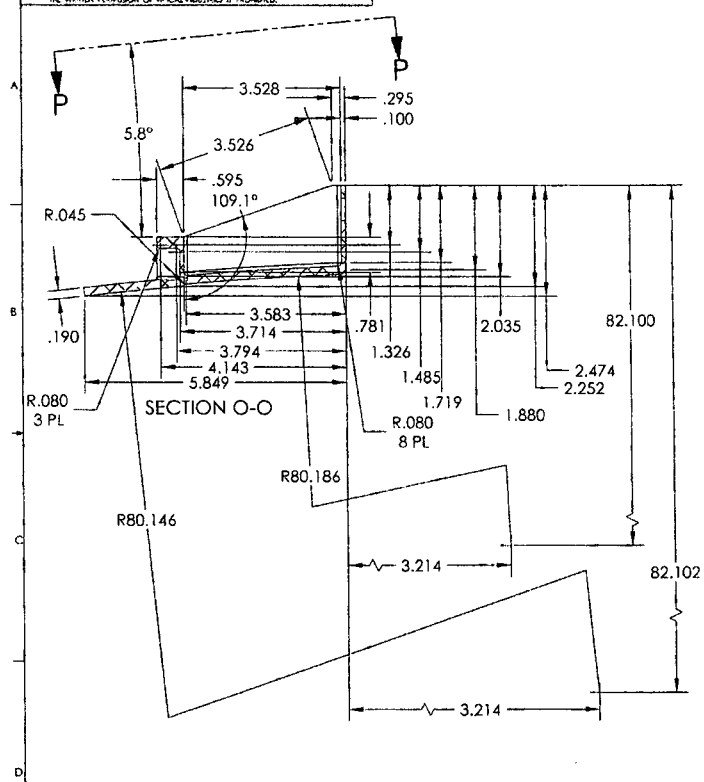


PARTS LIST			
DESCRIPTION	QTY	UNIT	PRICE
BRACKET	1	EA	647.9300
APICAL INDUSTRIES			
2509 TEMPLE HEIGHTS DR.			
OCEANSIDE, CA. 92054-3512 (760)724-5300			
BRACKETS			
DATE: 07/19/86	BY: JMC	SCALE: NONE	SHEET 2 OF 9



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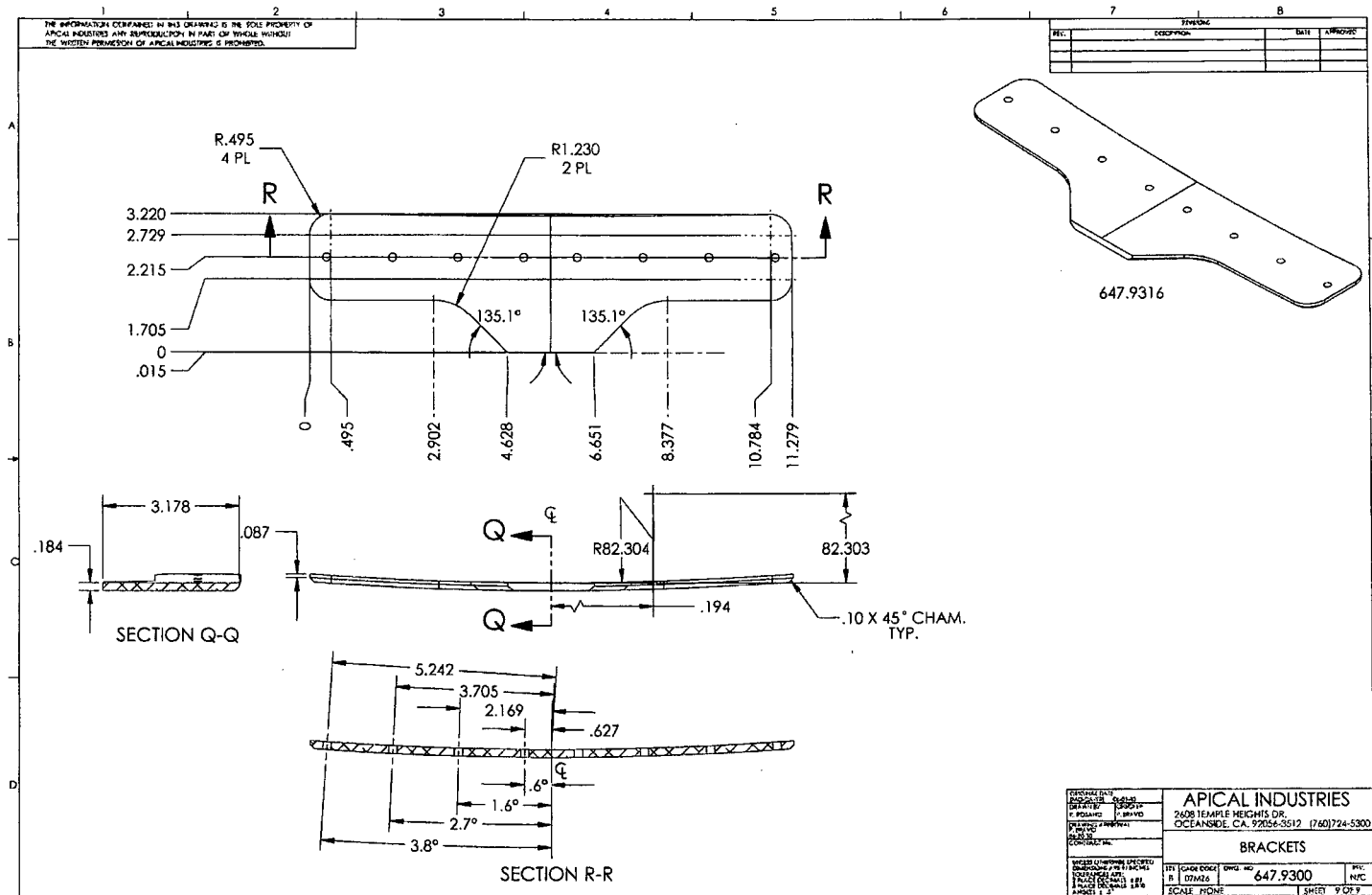
REV.	DESCRIPTION	DATE	APPROVED



PROJECT: 647.9300 DRAWING: 647.9300 DATE: 11/1/84 BY: J. W. HARRIS CHECKED: J. W. HARRIS APPROVED: J. W. HARRIS	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-3300 BRACKETS 647.9300 SCALE: NONE SHEET 8 OF 9
--	---

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

REV.	DESCRIPTION	DATE	APPROVED



PREPARED BY: [blank] CHECKED BY: [blank] DESIGNED BY: [blank] DRAWN BY: [blank] DATE: [blank] SCALE: [blank]	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92054-3512 (760)724-5300 BRACKETS 647.9300 SCALE: NONE	REV. [blank] R. 07/02/86 1 SHEET 9 OF 9
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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PO REPRINT

Purchase Order ID PO23719

Purchase Order Date 4/9/2014

PO Print Date 4/9/2014

Page Number 1 of 1

Order From :
E.T.M. INDUSTRIES INC.
310 HALL AVENUE
BOX 610

VC-ETM001

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

RENFREW, ONTARIO K7V 4E7
CANADA

Contact Name	Buyer	Michael Gregoire
Vendor Phone 613-432-6136	Customer POID	
	Customer Tax #	10127-2607
Ship To Contact	Terms	Net 30
Ship To Phone	Currency	CAD
	FOB	FCA - (Free Carrier)
Ship Via FedEx PI collect		
Ship Acct		

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req. Qty/ Unit of Measure	PO Unit Price	Extended Price
3	647.9611P	LH Aft Wiper Deflector	5/21/2014 Yes 5/21/2014		10.00 Each	\$499.00	\$4,990.00
NOTE Manufacture as per drawing 647.9611 rev.NC							
Line Total:							\$4,990.00
4	647.9311P	Support Bracket	5/21/2014 Yes 5/21/2014		6.00 Each	\$295.00	\$1,770.00
NOTE To be manufactured as per drawing/647.9311 rev.NC B115449							
Line Total:							\$1,770.00
PO Total:							\$6,760.00

PO Instructions: Procurement Quality Clauses

A004 FAA-PMA /TSO
A005 RIGHT OF ENTRY
A007 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION MAINTAINED BY SUPPLIER)
A016 PERSONNEL QUALIFICATION
A024 PROCESS CERTIFICATIONS
A025 CERTIFICATE OF CONFORMANCE
A04

Note: Terms & Condition of Purchasing(Sunpliers) and Procurement Qualitv Clause are an integral part of our AS9100

E.T.M. INDUSTRIES INC.
310 HALL AVENUE
BOX 610
RENFREW, ON K7V 4E7
Canada
Ph: 613-432-6136
Fax: 613-432-8212

Pack List

Number: 118505

Date: 15-Jul-14

To

DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7
Canada

Ship To

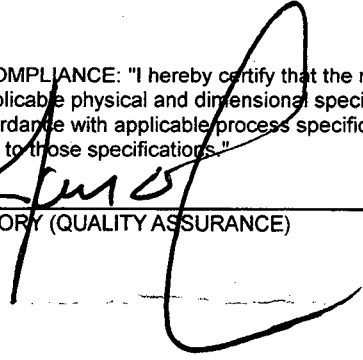
DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-5246

Ph: 613-632-5200

Fax: 613-632-5246

Terms		Ship Via	
Net 30 days			
Quantity	Description		
6 each	Part: 647.9311P SUPPORT BRACKET *FAI REQ'D *PERSONNEL QUALIFICATION *PROCESS CERTIFICATION *C OF C REQ'D SO: 17190 **LOT #89800		
	PO: PO23719	Rev: N/C	Line: 002
<p>CERTIFICATE OF COMPLIANCE: "I hereby certify that the material described above is in conformance with applicable physical and dimensional specifications; that it was manufactured in accordance with applicable process specifications; and has been inspected to verify conformance to those specifications."</p> <p> APPROVED SIGNATORY (QUALITY ASSURANCE)</p>			

Form 1: Part Number Accountability

- 2) Also indicate if the FAI is complete per Section 5.4: ☒ FAI Complete ☐ FAI Not Complete

20. Date: 6/23/2014

22. Date 15 Jun 14

24. Date

AS9102 Revision A First Article Inspection

Form 2: Product Accountability – Raw Material, Specifications and Special Process(es),
Functional Testing

1. Part Number 647.9311P	2. Part Name SUPPORT BRACKET	3. Serial Number N/A			4. FAI Report Number N/A
5. Material or Process – Name	6. Specification Number	7. Code	8. Special Process Supplier Code	9. Customer Approval Verification (Yes/No/N/A)	10. Certificate of Conformance Number
MATERIAL: ALUMINUM	7075-T651 PER AMS-QQ-A-250/12	N/A	N/A	N/A	CONSTELLUM LOT #135071
PROCESS: HARD ANODIZE	MIL-A-8625 TYPE III, CLASS 2, COLOR: BLACK: PREHEAT PR-148 ADGESION PROMOTER	N/A	N/A	N/A	VERDUN CERT. #309178-00
PROCESS: PRIMER	MIL-P-23377 J TYPE I, CLASS N	N/A	N/A	N/A	RLD CERT. #77365
11. Functional Test Procedure Number	12. Acceptance report number, if applicable				
Not Applicable	Not Applicable				
13. Comments					
14. Prepared By			15. Date		
MIKE YANTHA			6/23/2014		

1. Part Number 647.9311P				2. Part Name SUPPORT BRACKET		3. Serial Number N/A		4. FAI Report N/A	
Characteristic Accountability				Inspection / Test Results					
5. Char. No.	6. Reference Location	7. Characteristic Designator	8. Requirement	9. Results	10. Designated Tooling	11. Non Conformance Number	14. Reference Documents		
1	SHEET 4	N/A	1.244	1.2439	CMM	N/A	N/A		
2	SHEET 4	N/A	.406	.4070	CMM	N/A	N/A		
3	SHEET 4	N/A	.386	.3865	CMM	N/A	N/A		
4	SHEET 4	N/A	Ø.201 THRU	.2032	CMM	N/A	N/A		
5	SHEET 4	N/A	2.500	2.4932	CMM	N/A	N/A		
6	SHEET 4	N/A	1.328	1.3315	CMM	N/A	N/A		
7	SHEET 4	N/A	45°	45.06°	CMM	N/A	N/A		
8	SHEET 4	N/A	.25	.2437	CMM	N/A	N/A		
9	SHEET 4	N/A	.125	.1267	CMM	N/A	N/A		
10	SHEET 4	N/A	R.085 TYP	.0937	RADIUS GAUGE	N/A	N/A		
11	SHEET 4	N/A	.185	.188	CALIPERS	N/A	N/A		
12	SHEET 4	N/A	.875	.8741	CMM	N/A	N/A		
13	SHEET 4	N/A	1.650	1.6509	CMM	N/A	N/A		

The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.

12. Prepared By **MIKE YANTHA**13. Date **6/23/2014**

ETM Industries IncAS9102 Revision A First Article Inspection
Form 3: Characteristic Accountability, Verification and Compatibility Evaluation

Page 4 of 5

1. Part Number 647.9311P				2. Part Name SUPPORT BRACKET		3. Serial Number N/A		4. FAI Report N/A	
Characteristic Accountability				Inspection / Test Results					
5. Char. No.	6. Reference Location	7. Characteristic Designator	8. Requirement	9. Results	10. Designated Tooling	11. Non Conformance Number	14. Reference Documents		
14	SHEET 4	N/A	42.6°	42.70°	CMM	N/A	N/A		
15	SHEET 4	N/A	R142.059	142.0644	CMM	N/A	N/A		
16	SHEET 4	N/A	R142.059	142.0663	CMM	N/A	N/A		
17	SHEET 4	N/A	42.6°	42.71°	CMM	N/A	N/A		
18	SHEET 4	N/A	142.062	142.0663	CMM	N/A	N/A		
19	SHEET 4	N/A	142.062	142.0652	CMM	N/A	N/A		
20	SHEET 4	N/A	16.750	16.7402	CMM	N/A	N/A		
21	SHEET 4	N/A	10.875	10.8769	CMM	N/A	N/A		
22	SHEET 4	N/A	10.875	10.8768	CMM	N/A	N/A		
23	SHEET 4	N/A	5.875	5.8803	CMM	N/A	N/A		
24	SHEET 4	N/A	5.875	5.8716	CMM	N/A	N/A		
25	SHEET 5	N/A	.358	.3534	CMM	N/A	N/A		
26	SHEET 5	N/A	3.699	3.6949	CMM	N/A	N/A		

The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.

12. Prepared By **MIKE YANTHA**13. Date **6/23/2014**

ETM Industries IncAS9102 Revision A First Article Inspection
Form 3: Characteristic Accountability, Verification and Compatibility Evaluation

Page 5 of 5

1. Part Number 647.9311P				2. Part Name SUPPORT BRACKET		3. Serial Number N/A		4. FAI Report N/A	
Characteristic Accountability				Inspection / Test Results					
5. Char. No.	6. Reference Location	7. Characteristic Designator	8. Requirement	9. Results	10. Designated Tooling	11. Non Conformance Number	14. Reference Documents		
27	SHEET 5	N/A	7.042	7.0386	CMM	N/A	N/A		
28	SHEET 5	N/A	2.4°	2.5°	OPTICAL COMPARATOR	N/A	N/A		
29	SHEET 5	N/A	1.5°	1.8°	OPTICAL COMPARATOR	N/A	N/A		
30	SHEET 5	N/A	.1°	.3°	OPTICAL COMPARATOR	N/A	N/A		
31	SHEET 5	N/A	2.585	2.5770	CMM	N/A	N/A		
32	SHEET 5	N/A	4.825	4.8167	CMM	N/A	N/A		
33	SHEET 5	N/A	1.9°	2.0°	OPTICAL COMPARATOR	N/A	N/A		
34	SHEET 5	N/A	1.0°	1.2°	OPTICAL COMPARATOR	N/A	N/A		
35	SHEET 1	N/A	DEBURR AND BREAK ALL SHARP EDGES	ACCEPT	VERIFY	N/A	N/A		
36	SHEET 1	N/A	IDENTIFY IAW MPP-120	ACCEPT	VERIFY	N/A	N/A		
37	SHEET 1	N/A	PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9311 SUPPORT BRACKET.SLDPRP, LAST MODIFIED 06-22-10	ACCEPT	VERIFY	N/A	N/A		

The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.

12. Prepared By **MIKE YANTHA**13. Date **6/23/2014**

B I L L O F L A D I N G

Ship From: THYSSENKRUPP MATERIALS NA
2821 LANGSTAFF ROAD
CONCORD, ONTARIO L4K 5C6
Tel: 905 669 9444 Fax: 905-738-9033

No: PEC 873241
Ship Date 17Apr14 at 7:53 From PFW
Probill T161442 19335956
Via MANITOULIN TRA
FOB CONCORD
Frt PREPAID
Route 0- 0 Manifest
Vhcle Trailer
Slp STAN IVERS (905-532-1350)
Sold To: (20132)
E T M INDUSTRIES INC
P O BOX 610
RENFREW, ON K7V 4E7

Ship To: (1)
E T M INDUSTRIES INC
310 HALL AVENUE
RENFREW, ON K7V 2S5
Tel: 613-432-6136 Fax: 613-432-8212

Dart.
89800

B I L L O F L A D I N G

1) Our Order PEC-671632- 1 Your PO # 98630
ALUMINUM PLATE 7075-T651
1.50" THICK X 2.0000" X 17.0000"

MTR

CofC

Heat Number	Tag No	Quantity	PCS	Wt LBS
135071	283113	1.42 SFT	6	33

2) Our Order PEC-671632- 2 Your PO # 98630
ALUMINUM PLATE 7075-T651
6.00" THICK X 6.5000" X 7.5000"

MTR

CofC

89799

Heat Number	Tag No	Quantity	PCS	Wt LBS
461421	283114	3.39 SFT	10	304

TOTAL:	Tags	PCS	LBS
	2	16	337

DO NOT CHARGE ENERGY SURCHARGE (06-2011)
SEND MTR'S * GENERIC COFC'S WITH EVERY SHIPMENT
MUST INCLUDE THE FOLLOWING INFORMATION:

COMPANY NAME
SALES ORDER #
P.O.#
ITEM#

AND DESCRIPTION OF PRODUCT & SPECIFICATIONS
(ie. ASTM SPECS)

* DO NOT SHIP MATERIAL WITHOUT MTR'S & CofC'S *
> CLOSE AT NOON ON FRIDAYS <

Page: 1Continued

TOUTES ERREURS ET/OU MARCHANDISES MANQUANTES DOIVENT ÊTRE
RAPPORTÉES IMMÉDIATEMENT

ERRORS OR SHORTAGE MUST BE REPORTED IMMEDIATELY

RETOUR DE MARCHANDISES AVEC NOTRE NUMÉRO D'APPROBATION SEULEMENT
MERCHANDISE MAY NOT BE RETURNED WITHOUT OUR APPROVAL NUMBER

Ship From: B I L L O F L A D I N G
THYSSENKRUPP MATERIALS NA
2821 LANGSTAFF ROAD
CONCORD, ONTARIO L4K 5C6
Tel: 905 669 9444 Fax: 905-738-9033

No: PEC 873241
Ship Date 17Apr14 at 7:53 From PFW
Probill T161442 19335956
Via MANITOULIN TRA
FOB CONCORD
Frt PREPAID
Route 0- 0 Manifest
Vhcle Trailer
Slp STAN IVERS (905-532-1350)
Sold To: (20132)
E T M INDUSTRIES INC

Ship To: (1)
E T M INDUSTRIES INC

B I L L O F L A D I N G

TOTAL 1 PKG, 1 SKID G.W. 385 LBS

ITEM (1) PKG
ITEM (2) SKID

CUSTOMER PICK-UP HRS AT THYSSENKRUPP MATERIALS NA
CONCORD, ONT.* *** 9:00 AM TO 4:00 PM ***
*** TEL. 800-926-2600 ***

WE STOCK STAINLESS STEEL *
PLEASE LET US QUOTE YOUR NEXT REQUIREMENT *

***PLEASE NOTE A \$25.00 ENERGY SURCHARGE WILL BE
ADDED TO EVERY ORDER.***

Page: 2 Last

TOUTES ERREURS ET/OU MARCHANDISES MANQUANTES DOIVENT ÊTRE
RAPPORTÉES IMMÉDIATEMENT

ERRORS OR SHORTAGE MUST BE REPORTED IMMEDIATELY

RETOUR DE MARCHANDISES AVEC NOTRE NUMÉRO D'APPROBATION SEULEMENT
MERCHANDISE MAY NOT BE RETURNED WITHOUT OUR APPROVAL NUMBER



CERTIFICATE OF COMPLIANCE

Date: APRIL 17, 2014

Customers: E T M INDUSTRIES INC

To Whom It May Concern:

RE: Your PO 98630

OUR B/L-873241

Work order no. 671632

DESCRIPTION	SIZE	HEAT NO	SPECIFICATIONS
ALUMINUM PLATE 7075-T651	1.5" THICK X 2.0" X 17.0"	135071	ASTM B209
ALUMINUM PLATE 7075-T651	6.0" THICK X 6.5" X 7.5"	461421	ASTM B209

We certify that mercury or any of its compounds are not used in the processing and distribution of our products. The products we distribute are not hazardous in their received state. For MSDS sheets go to www.copperandbrass.com

We hereby certify that the material supplied against the above order complies with the above Specifications .

Sincerely,

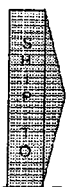
A handwritten signature in cursive script, appearing to read 'Yolande'.

YOLANDE

THYSSENKRUPP MATERIALS NA



CERTIFIED TEST REPORT
Constellium Rolled Products Ravenswood, LLC



COPPER & BRASS SALES
1015 SAINT JEROME STREET
MISHAWAKA IN 46544



COPPER & BRASS SALES
P.O. BOX 5116
SOUTHFIELD MI 48086

COPPER&BR 478101 4075 INCLUSION SERIAL#: 20140214478101 PAGE 1 OF 3

CUSTOMER PURCHASE ORDER NO. & ITEM 5400207290				Constellium ORDER NO. 110-513649		CERTIFICATION "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC 859 Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA Steve Good - Laboratory Manager	
ALLOY 7075	CLAD. 00	TEMPER T651	GAUGE 1.53000	WIDTH 60.500	LENGTH 144.500		
ITEM ORDERED MOLD PLATE-DIST GE SPEC PLATE, SAWED MILL							
CUSTOMER SPECIFICATION AMS-QQ-A-250/12							
PART NUMBER ALFLR00998		B/L NUMBER 478100		DATE SHIPPED 02/16/14			
WEIGHT SHIPPED 11,410		NO. OF PIECES 8		GOVT. CONTRACT NO.			

LOT NUMBER	TEST DIRECTION	NO. OF TESTS	ULTIMATE STRENGTH K.S.I.		YIELD STRENGTH K.S.I.		ELONGATION %		COND % IACS										
			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN	MAX									
135071	LT	2	80.7	82.2	70.9	71.7	11.5	12.5											
All material contained in lot 135071 was cast and manufactured in the USA.																			
135081	LT	2	***** T651 78.9	80.5	68.9	71.2	***** 8.5	9.0											
All material contained in lot 135081 was cast and manufactured in the USA.																			
ALL LOTS ON THIS CERTIFICATION ALSO CONFORM TO THE FOLLOWING REQUIREMENTS																			
ALSO CONFORMS TO AMS 4045J AND ASTM B209-07																			
CHEM COMP	ALLOY	SILICON		IRON		COPPER		MANGANESE		MAGNESIUM		CHROMIUM		ZINC		TITANIUM		OTHERS	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	EACH MAX.	TOTAL MAX.
	SEE ACTUAL CHEMICAL COMPOSITION																		
	ALUMINUM REMAINDER																		

P-860-155D Revised: 02/2014

From: ThyssenKrupp Materials NA

Cust. THYSSENKRUPP MATERIALS NA - ECAD Del.: 2403089568

CstAr CstOr 257404

Wgt.: 33 LB Date 04/12/2014



CERTIFIED TEST REPORT

Constellium Rolled Products Ravenswood, LLC

COPPER & BRASS SALES
1015 SAINT JEROME STREET
MISHAWAKA IN

46544

COPPER & BRASS SALES
P.O. BOX 5116
SOUTHFIELD MI

48086

COPPER&BR 478101 4075 INCLUSION SERIAL#: 20140214478101 PAGE 2 OF 3

CUSTOMER PURCHASE ORDER NO. & ITEM 5400207290				Constellium ORDER NO. 110-513649		CERTIFICATION "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC 859 Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA Steve Good - Laboratory Manager
ALLOY 7075	CLAD. 00	TEMPER T651	GAUGE 1.53000	WIDTH 60.500	LENGTH 144.500	
ITEM ORDERED MOLD PLATE-DIST GE SPEC PLATE, SAWED MILL						
CUSTOMER SPECIFICATION AMS-QQ-A-250/12						
PART NUMBER ALFLR00998		B/L NUMBER 478100		DATE SHIPPED 02/16/14		
WEIGHT SHIPPED 11,410		NO. OF PIECES 8		GOVT. CONTRACT NO.		

LOT NUMBER	TEST DIRECTION	NO. OF TESTS	ULTIMATE STRENGTH K.S.I.		YIELD STRENGTH K.S.I.		ELONGATION %		COND % IACS					
			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN	MAX				
			ACTUAL CHEMICAL COMPOSITION											
135071	C		SI= 0.08	FE= 0.14	CU= 1.46	MN= 0.04	MG= 2.53							
			CR= 0.20	ZN= 5.62	TI= 0.02	ZR= 0.01								
			OTHERS-EACH: .05 MAX.		OTHERS TOTAL: .15 MAX.		AL REMAINDER							
135081	C		SI= 0.08	FE= 0.14	CU= 1.46	MN= 0.04	MG= 2.53							
			CR= 0.20	ZN= 5.62	TI= 0.02	ZR= 0.01								
			OTHERS-EACH: .05 MAX.		OTHERS TOTAL: .15 MAX.		AL REMAINDER							

P-860-155D Revised: 02/2014

From: ThyssenKrupp Materials NA

Cust. THYSSENKRUPP MATERIALS NA - ECAD Del.: 2403089568

CstAr CstOr 257404

Wgt.: 33 LB Date 04/12/2014



CERTIFIED TEST REPORT
Constellium Rolled Products Ravenswood, LLC



COPPER & BRASS SALES
1015 SAINT JEROME STREET
MISHAWAKA IN 46544



COPPER & BRASS SALES
P.O. BOX 5116
SOUTHFIELD MI 48086

COPPER&BR 478101 4075 INCLUSION SERIAL#: 20140214478101 PAGE 3 OF 3

CUSTOMER PURCHASE ORDER NO. & ITEM 5400207290				Constellium ORDER NO. 110-513649		CERTIFICATION "Constellium Rolled Products, hereby certifies that metal shipped under this order has been inspected and found in conformance with the requirements of the applicable specifications as indicated herein. Any warranty is limited to that shown on Constellium Rolled Products' standard General Terms and Conditions of Sales. Test reports are on file, subject to examination." Constellium Rolled Products Ravenswood, LLC 859 Century Road P.O. BOX 68 RAVENSWOOD, WV 26164 USA <i>Steve Good</i> Steve Good - Laboratory Manager	
ALLOY 7075	CLAD. 00	TEMPER T651	GAUGE 1.53000	WIDTH 60.500	LENGTH 144.500		
ITEM ORDERED MOLD PLATE-DIST GE SPEC PLATE, SAWED MILL							
CUSTOMER SPECIFICATION AMS-QQ-A-250/12							
PART NUMBER ALFLR00998		B/L NUMBER 478100		DATE SHIPPED 02/16/14			
WEIGHT SHIPPED 11,410		NO. OF PIECES 8		GOVT. CONTRACT NO.			

LOT NUMBER	TEST DIRECTION	NO. OF TESTS	ULTIMATE STRENGTH K.S.I.		YIELD STRENGTH K.S.I.		ELONGATION %		COND % IACS											
			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.										
THIS TEST REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY OR AUTHORIZED QUALITY DELEGATE. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW.																				
CHEMISTRY BY OES: ARKSPARK																				
CHEMISTRIES REPORTED IN PERCENTAGE BY WEIGHT.																				
WHEN FRACTURE TOUGHNESS TEST REQUIRED, TESTED PER ASTM E399.																				
WHEN TENSILE TEST REQUIRED, TESTED PER ASTM E8; B557.																				
Mark Paperwork: ALFLR00998																				
DUNS Number: 090570149; CAGE Code: 1YWL9																				
Mercury is not a normal contaminant in aluminum alloys and neither mercury nor any of its compounds were utilized in the manufacture of our product.																				
"END OF CERTIFICATION"																				
CHEM COM P	ALLOY	SILICON		IRON		COPPER		MANGANESE		MAGNESIUM		CHROMIUM		ZINC		TITANIUM		OTHERS		
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	EACH MAX.	TOTAL MAX.	
	SEE ACTUAL CHEMICAL COMPOSITION																			
ALUMINUM REMAINDER																				

P-860-155D Revised: 02.2014

From: ThyssenKrupp Materials NA

Cust. THYSSENKRUPP MATERIALS NA - ECAD Del.: 2403089568

CstAr CstOr 257404

Wgt.: 33 LB Date 04/12/2014



Anodisation Verdun Inc.

Verdun Anodizing Inc.

3971, ave Verdun, Verdun (Quebec) H4G 1L1

AS 9100:2004

ISO 9001:2000

Certified

info@verdunanodizing.com

Tel: (514) 761-4531

Fax: (514) 769-4731

CERTIFICATE OF SUB-CONTRACTOR

ETM

ETM

C
U
S
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E
R

E.T.M. INDUSTRIES INC.

310 HALL AVENUE

BOX 610

RENFREW

Ontario K7V 4E7

S
H
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P

T
O

E.T.M. INDUSTRIES INC.

310 HALL AVENUE

BOX 610

RENFREW

Ontario K7V 4E7

Customer Order No.	Order Date	Process Date	Certificate No.
99193	09/07/14	10/07/14	309178-00

PROCESS: MIL A-8625F1 TY III Cl 2 NOIR No Seal

Item No.	Quantity	Description	Serial #
001	6.0	647.9311P LINE: 001 SUPPORT BRACKET REV.N/C JOB: 89800 DUE: 25-JUN-14	MAT: 7075-T651

We hereby certify that the parts described above and furnished by E.T.M. INDUSTRIES INC. have been treated in accordance with the relevant specifications, PO requirements and that no substitution of materials has been made.



Inspector:

Verdun Anodizing Inc.



- POWDER COATING
- ELECTROSTATIC ON-SITE
- BAKED ENAMEL FINISHES

Industries Ltd.

4210 ALBION ROAD
OTTAWA, ONTARIO K1T 3W2

TELEPHONE: (613) 822-4000
FAX: (613) 822-3303

EMAIL: rid@magma.ca
WEB: www.rldindustries.com

LETTER OF COMPLIANCE

E.T.M. Industries Inc.
P.O. Box 610, 266 Hall Avenue East
Renfrew, Ontario
K7V 4E7

Purchase Order #: 99301

RLD W/O #: 77365

DATE: July 15, 2014

PART:

Quantity	Part Number	Description
6	647.9311P	SUPPORT BRACKET
10	647.9611P	L/H AFT WIPER DEFLECTOR

SPECIFICATION:

Parts were painted July 14, 2014 as follows:

Primer: 02GN084, DEFT, Aqua Green, Batch # 99460, MILS 1 DFT and Expiry Date Oct./15

Prime per IAW MIL-P-23377J, Type I, Class N.

Parts also passed a non-destructive tape test.

Roger Lortie
Purchaser/Estimator/Quality Assurance
RLD INDUSTRIES LTD.

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12.
2. FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR: BLACK; PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J TYPE I, CLASS N.
3. DEBURR AND BREAK ALL SHARP EDGES.
4. IDENTIFY IAW MPP-120. LASER ENGRAVE CENTURY GOTHIC, 12 POINT P/N AND REVISION.
5. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9310 LH BRACKET.SLDPR, LAST MODIFIED 06-22-10.
6. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9311 SUPPORT BRACKET.SLDPR, LAST MODIFIED 06-22-10.
7. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9312 BRACKET.SLDPR, LAST MODIFIED 06-22-10.
8. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9313 BRACKET.SLDPR, LAST MODIFIED 06-22-10.
9. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9314 RETAINER BRACKET.SLDPR, LAST MODIFIED 06-22-10.
10. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9315 RECEPTACLE BRACKET.SLDPR, LAST MODIFIED 06-22-10.
11. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9316 CROSSBAR BRACKET.SLDPR, LAST MODIFIED 06-22-10.
12. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9317 RH BRACKET.SLDPR, LAST MODIFIED 06-22-10.

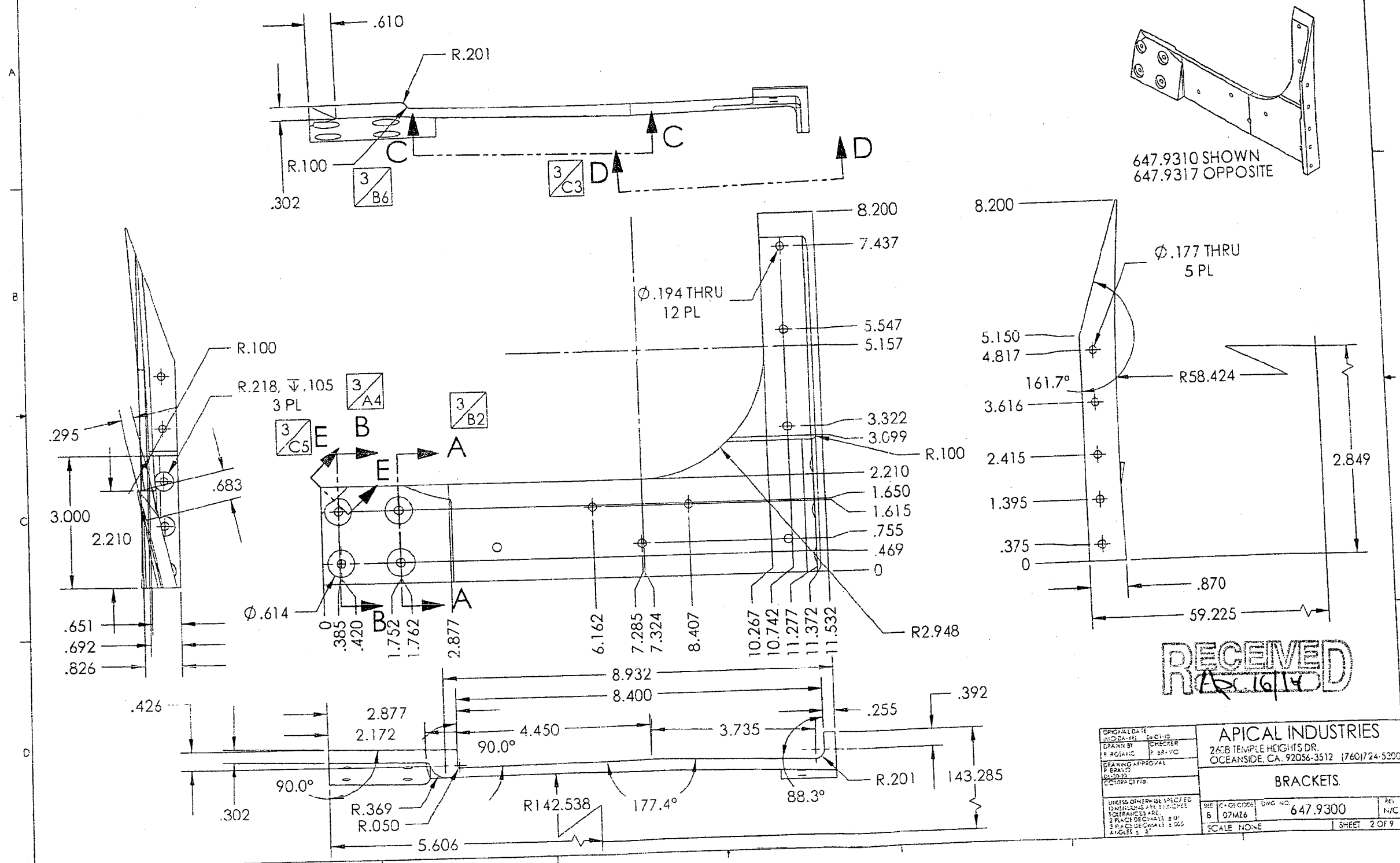
UNINCORPORATED ECN(S)

03209, 03706, 04249

	647.9317	RH BRACKET	△1	△2 △3
	647.9316	CROSSBAR BRACKET	△1	△2 △11
	647.9315	RECEPTACLE BRACKET	△1	△2 △10
	647.9314	RETAINER BRACKET	△1	△2 △9
	647.9313	BRACKET	△1	△2 △8
	647.9312	BRACKET	△1	△2 △7
	647.9311	SUPPORT BRACKET	△1	△2 △6
	647.9310	LH BRACKET	△1	△2 △5
FIND #	PART #	DESCRIPTION	MAT'L	SPEC.
PARTS LIST				
QTY	ORIGINAL DATE	DATE	DATE	DATE
NEXT ASSY (S)	647.8900	647.8900	647.8900	647.8900
APICAL INDUSTRIES				
2608 TEMPLE HEIGHTS DR.				
OCEANSIDE, CA 92056-3512 (760)724-5300				
BRACKETS				
REV	DATE	DATE	DATE	DATE
3	07/16/10	07/16/10	07/16/10	07/16/10
SCALE	NONE	SHEET	1	OF 9

RECEIVED
NOV 16 2010

CONTROL
COPY

[illegible]

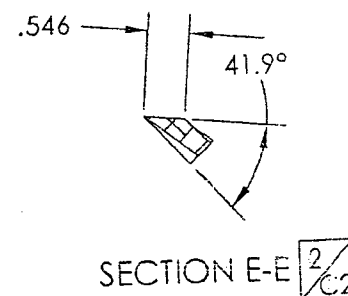
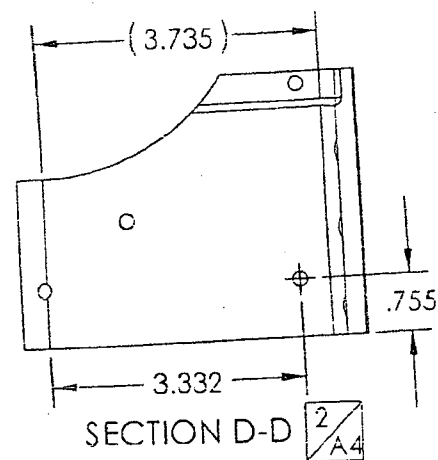
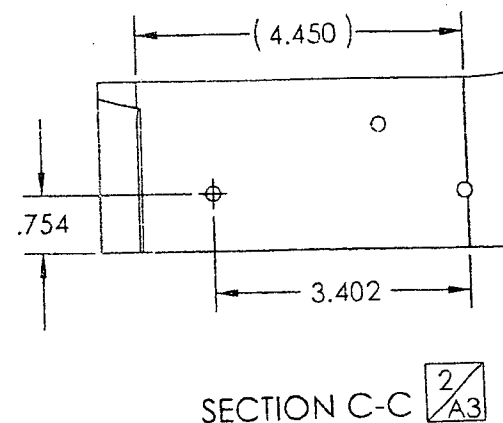
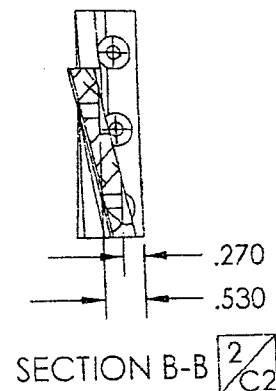
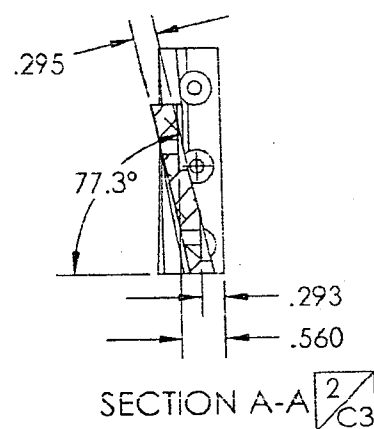
COPIED
COPY

RECEIVED
APR 16 1964

ORIGINAL DATE MODIFIED DRAWN BY CHECKED BY DESIGNED BY APPROVAL DATE COMMENTS	6-21-10 P. RYAN P. RYAN P. RYAN P. RYAN P. RYAN P. RYAN P. RYAN	APICAL INDUSTRIES 2426 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512 (760)724-5200
UNLESS OTHERWISE SPECIFIED TOLERANCES ARE DIMENSIONS DECIMALS ± .005 FRACTIONS ± .001 ANGLES ± .001		SHEET NO. 647.9300 SCALE NONE SHEET 2 OF 9

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REV	DESCRIPTION	DATE	APPROVED

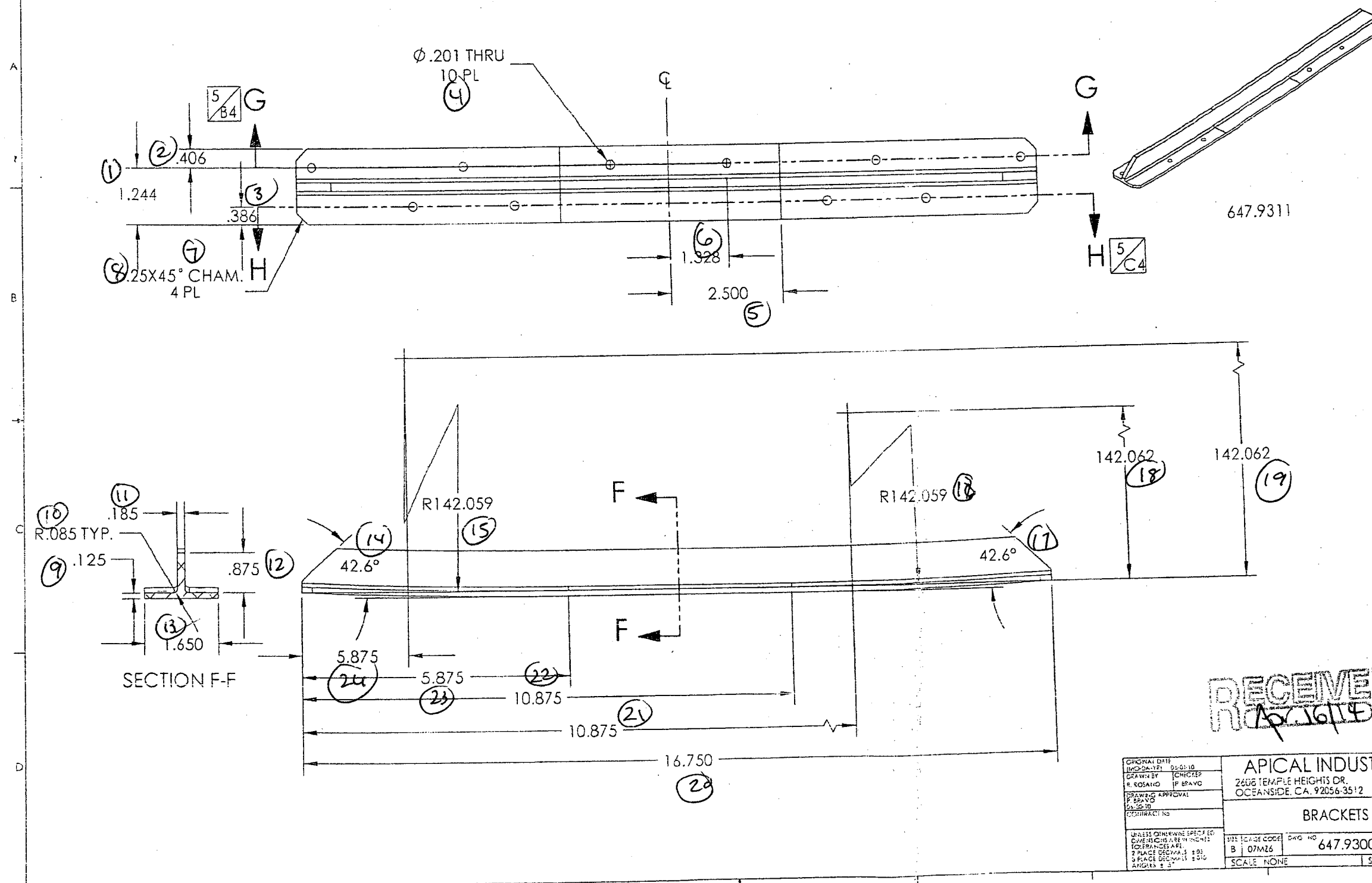


RECEIVED
NOV 16 1985

ORIGINAL DATE (INC. DATE) 04.01.10		APICAL INDUSTRIES	
DRAWN BY R. ROSAND		2408 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
CHECKED BY P. BLAVO		BRACKETS	
DRAWING APPROVAL P. BLAVO		SCALE NONE	
CONTRACTING		SHEET 3 OF 9	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1. HOLE LOCATIONS ±.01 2. HOLE DIAMETERS ±.005 3. PLACEMENTS ±.005 ANGLES ±.5°		REV. N/C	

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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



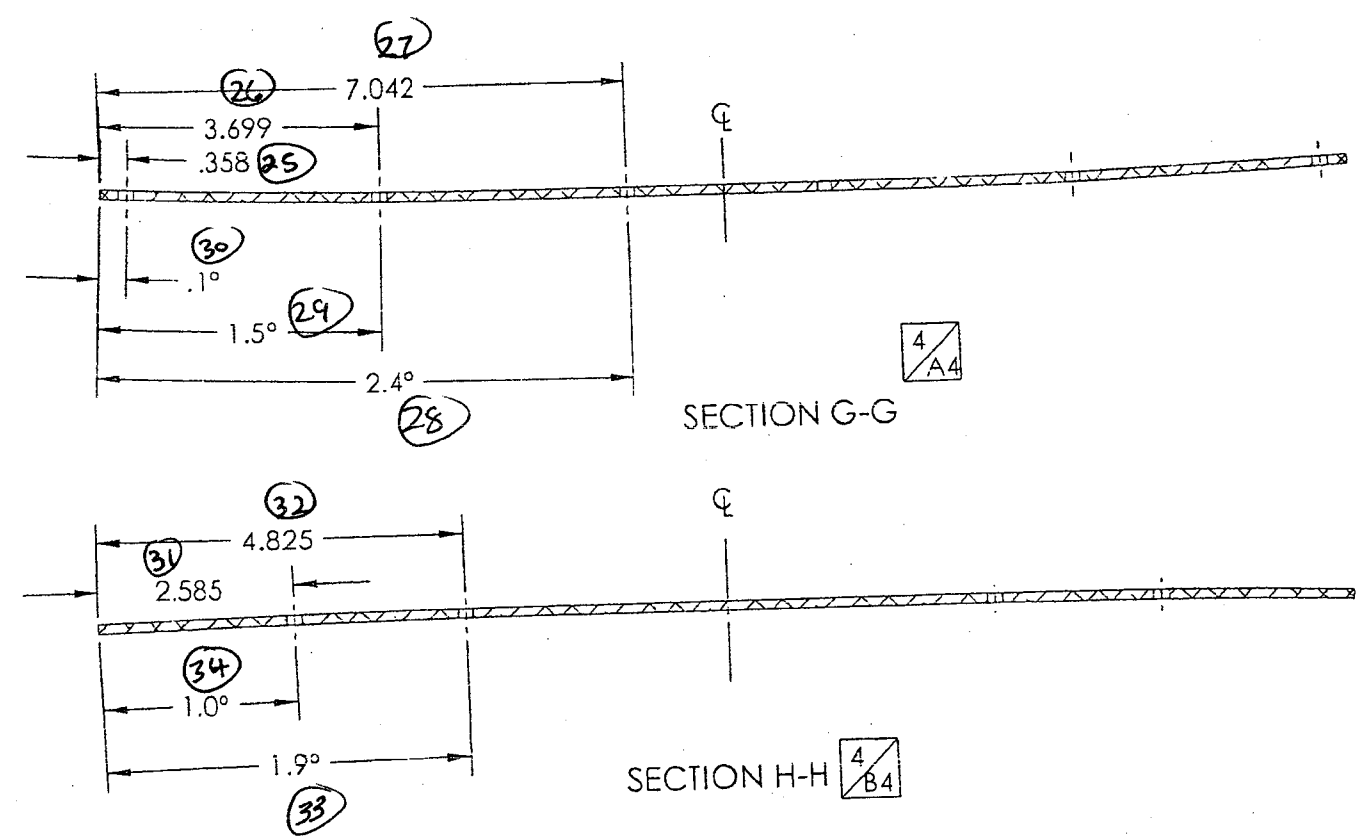
RECEIVED
APR 16 1994

ORIGINAL COPY

APICAL INDUSTRIES			
2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300			
BRACKETS			
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS: ± .05 3 PLACE DECIMALS: ± .010 ANGLES: ± 3°	SIZE: CASE CODE B 07M26	DWG NO. 647.9300	REV. N/C
SCALE: NONE		SHEET 4 OF 9	

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REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



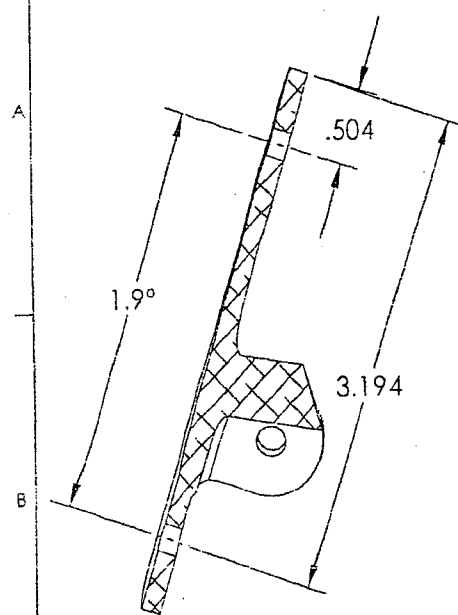
RECEIVED
RICK 10/15/10

COPY

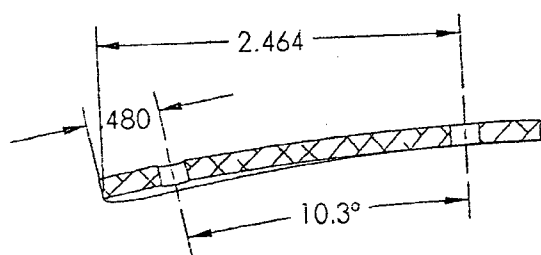
ORIGINAL DATE 11/01/10		APICAL INDUSTRIES	
DRAWN BY P. BRAYO		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92058-3512 (760) 724-5300	
CHECKED BY P. BRAYO		BRACKETS	
CONTRACT NO.		SEE CAGE CODE B 07M16	DWG NO. 647.9300
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .005 ANGLES ± .5°		SCALE NONE	REV N/C
		SHEET 5 OF 9	

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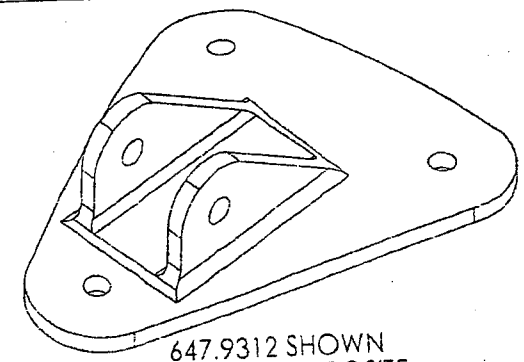
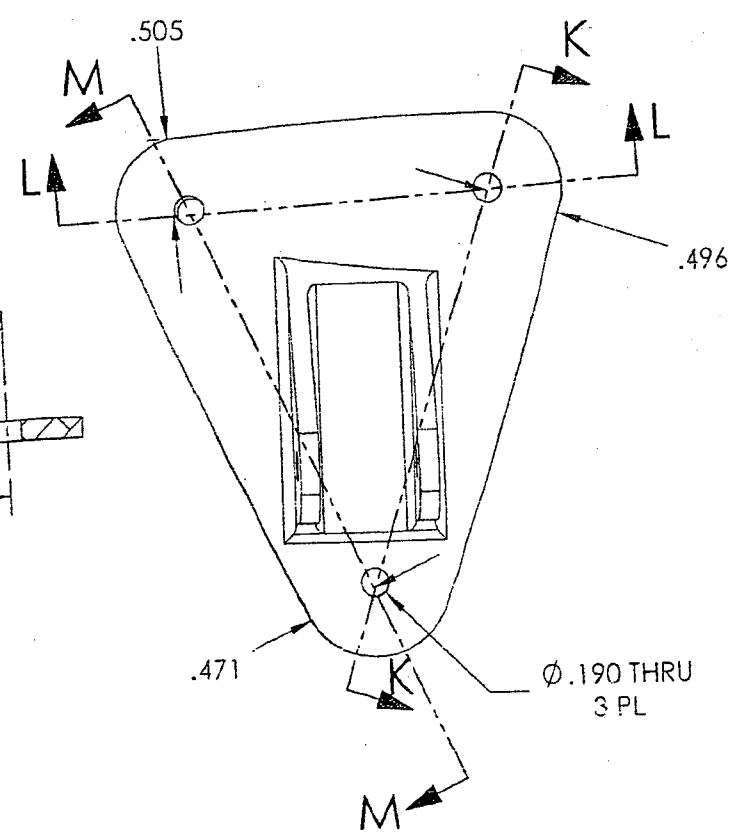
REV	DESCRIPTION	DATE	APPROVED



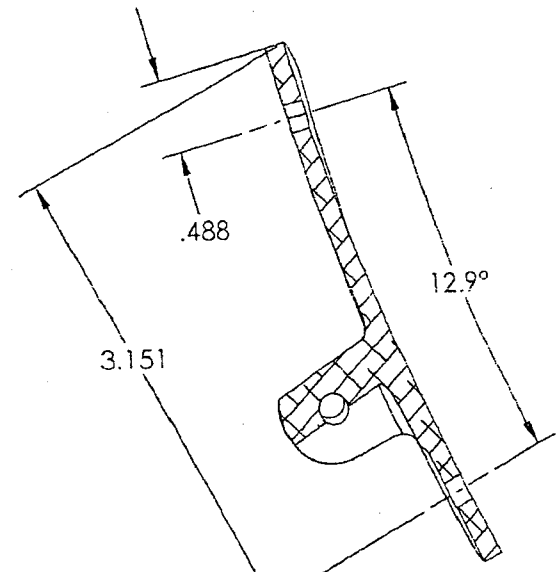
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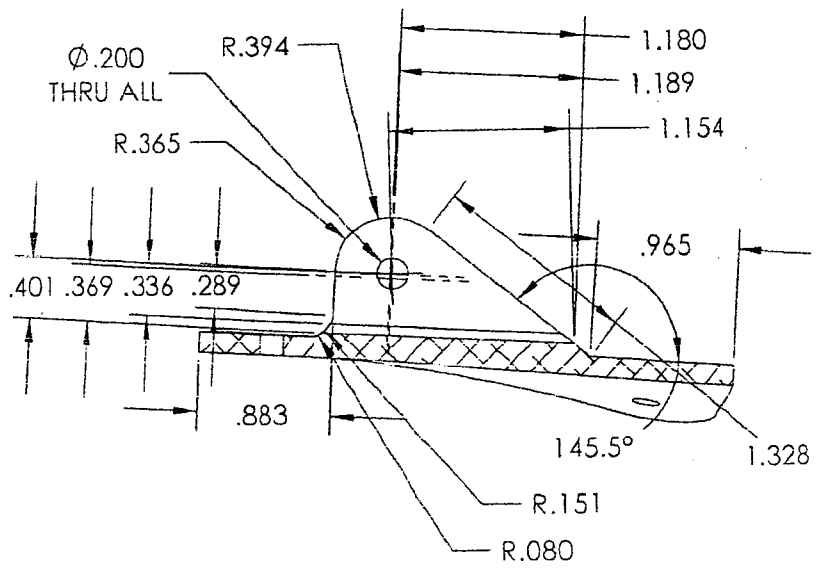
SECTION L-L



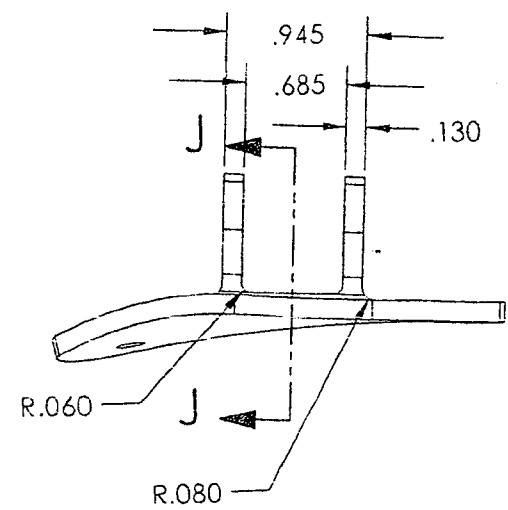
647.9312 SHOWN
647.9313 OPPOSITE



SECTION M-M



SECTION J-J

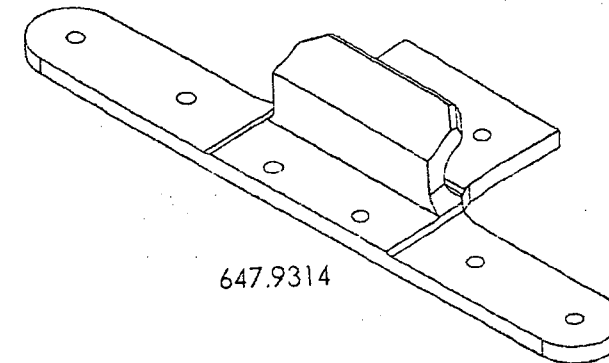
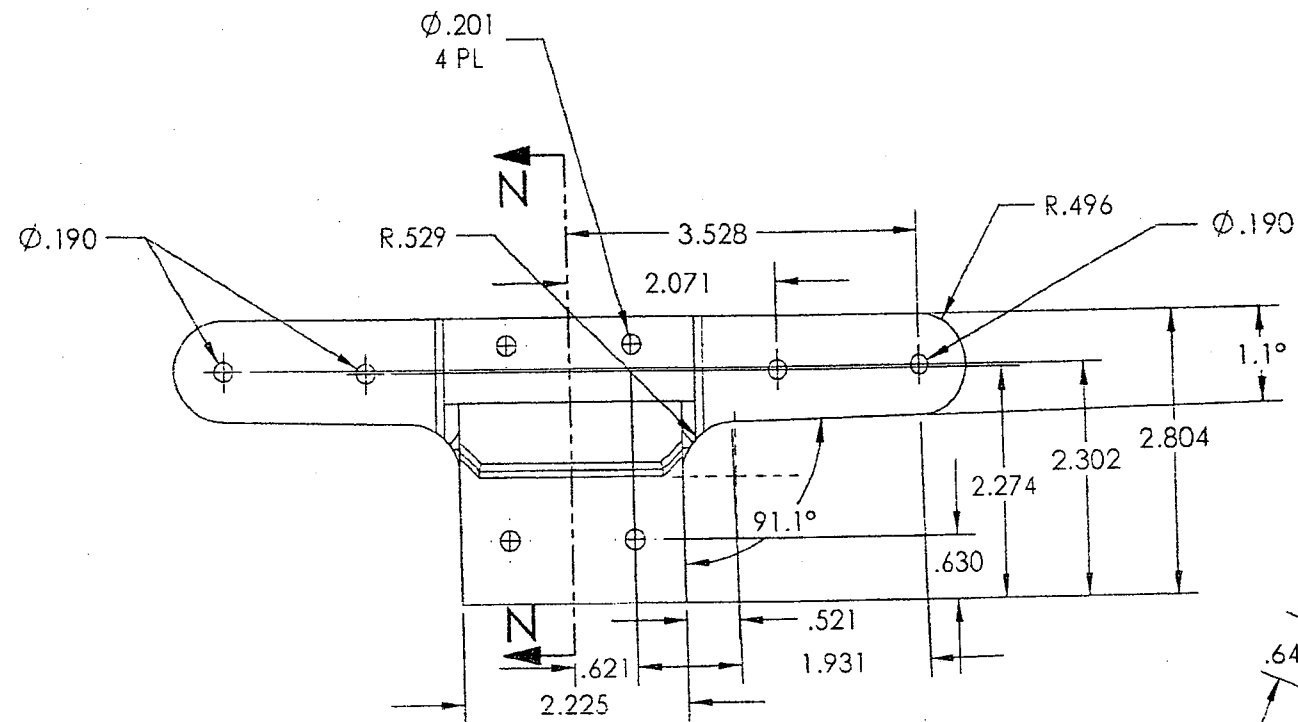


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APR 16 1979

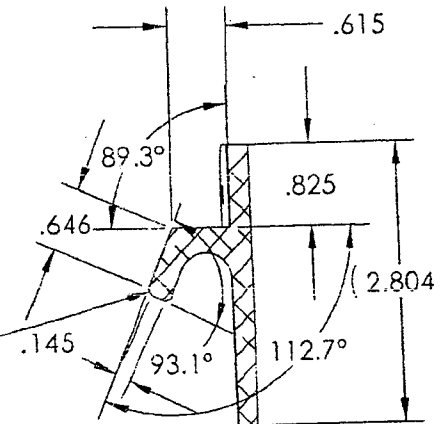
PARTS LIST			
APICAL INDUSTRIES			
2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300			
BRACKETS			
ORIGINAL DATE 10/04/78	DESIGNED R. ROSANO	DWG NO. 647.9300	REV. N/C
DRAWING APPROVAL P. BRAVO		SCALE NONE	SHEET 6 OF 9

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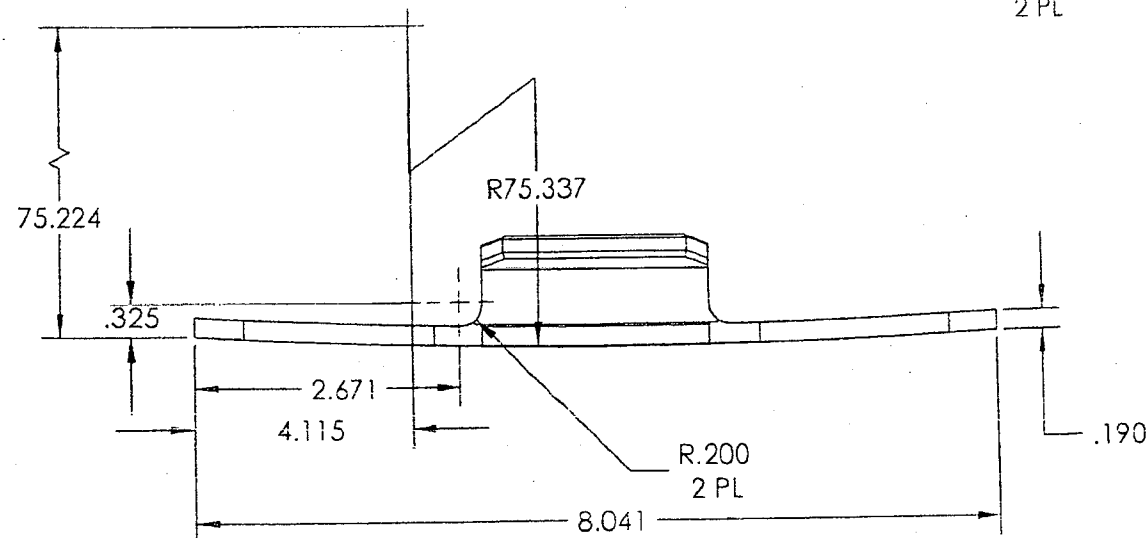
REV.	DESCRIPTION	DATE	APPROVED



.050 X 45° CHAM.
2 PL



SECTION N-N

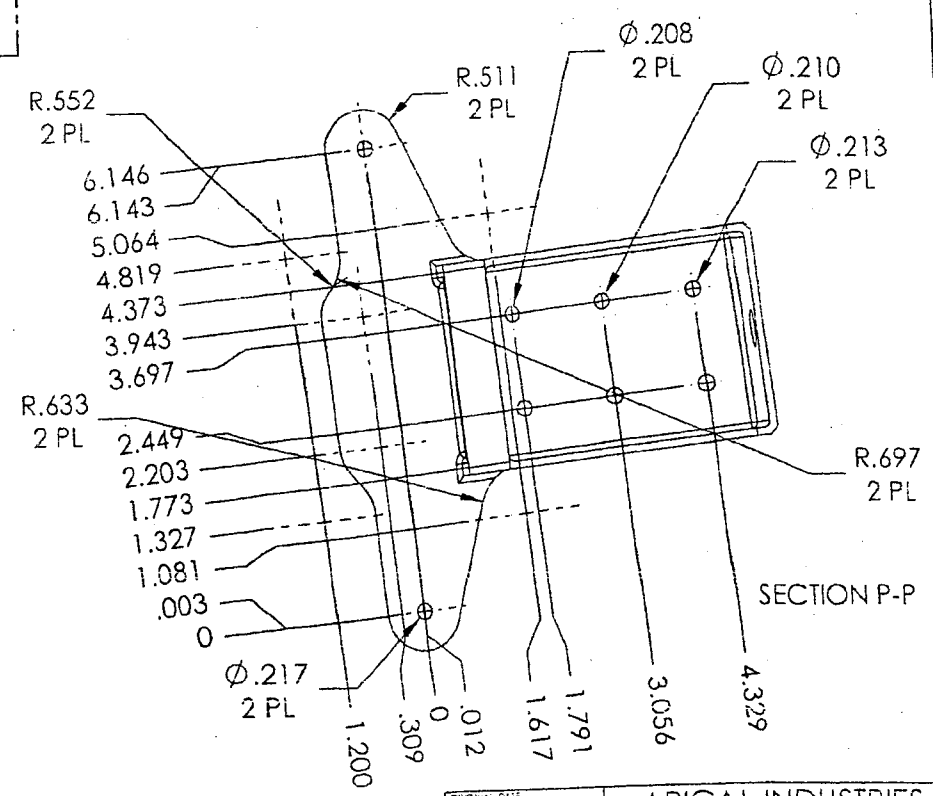
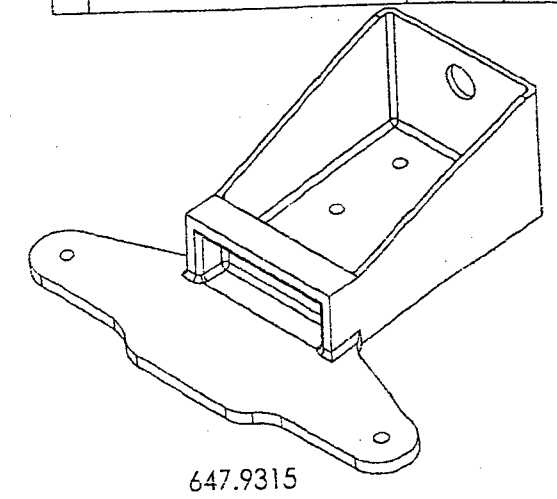
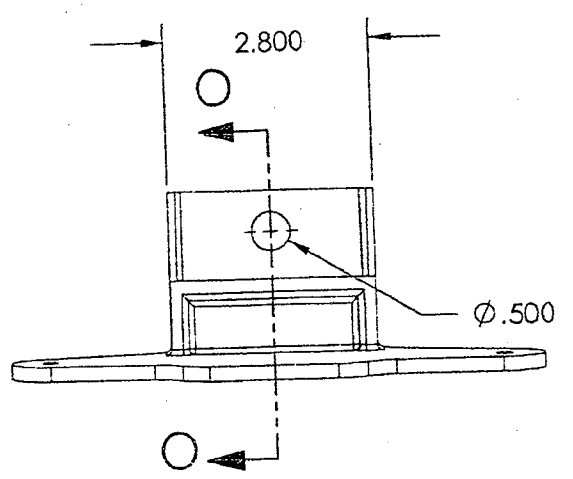
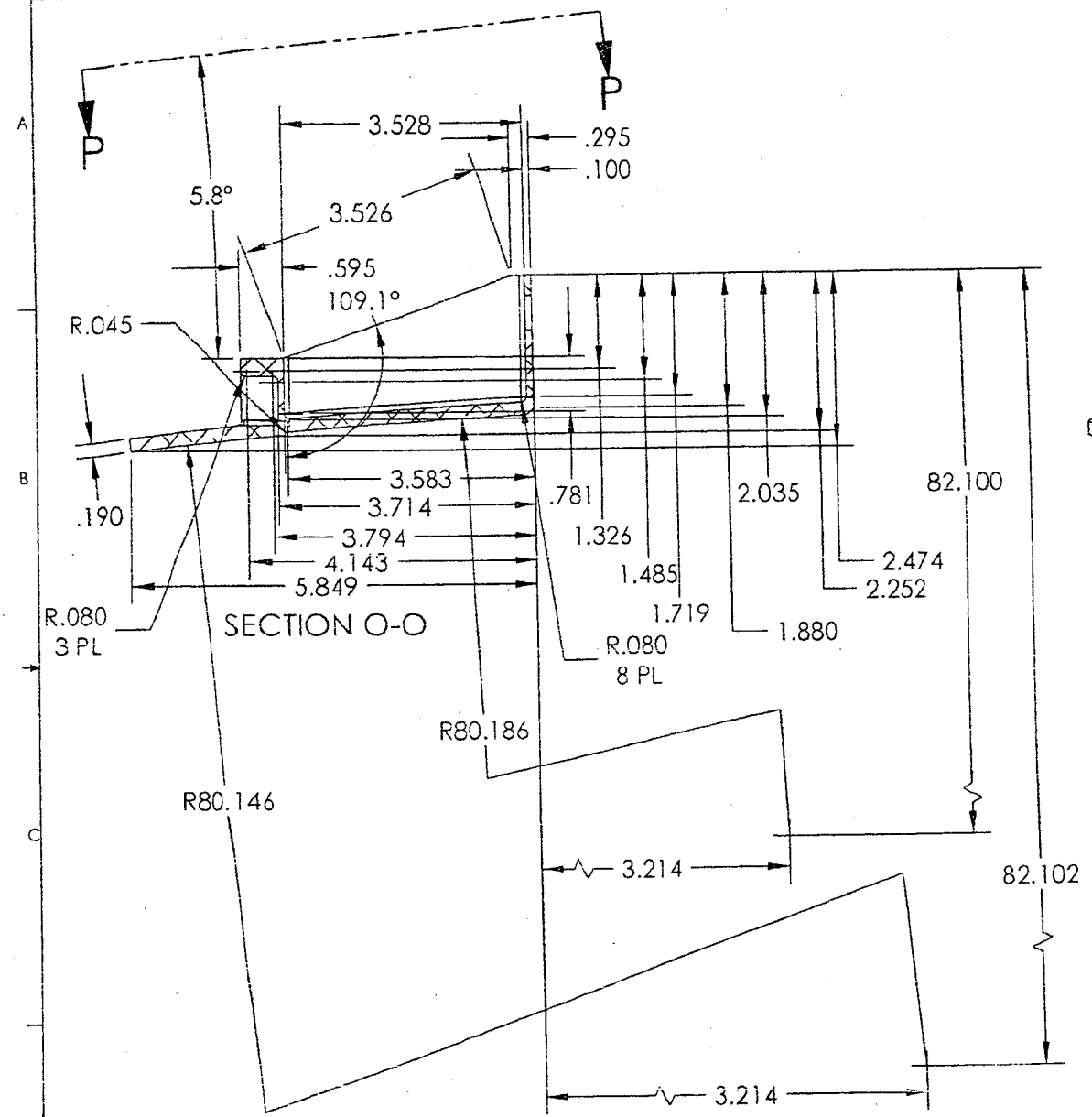


RECEIVED
APR 16 1990

ORIGINAL DATE IN. 04-1991 04-01-10	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300
DRAWN BY R. FOSAND	CHECKED P. BRAYO
DRAWING APPROVAL P. BRAYO	DATE 04-30-10
CONTRACT NO.	SCALE NONE
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .03 3 PLACE DECIMALS ± .010 ANGLES ± .5°	REV. N/C
REF. CASE CODE	DWG. NO. 647.9300
B 071.126	SHEET 7 OF 9

REV	DESCRIPTION	DATE	APPROVED

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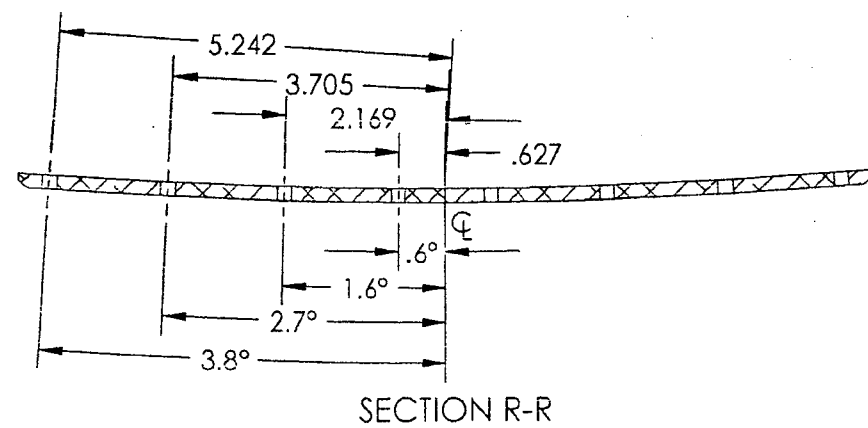
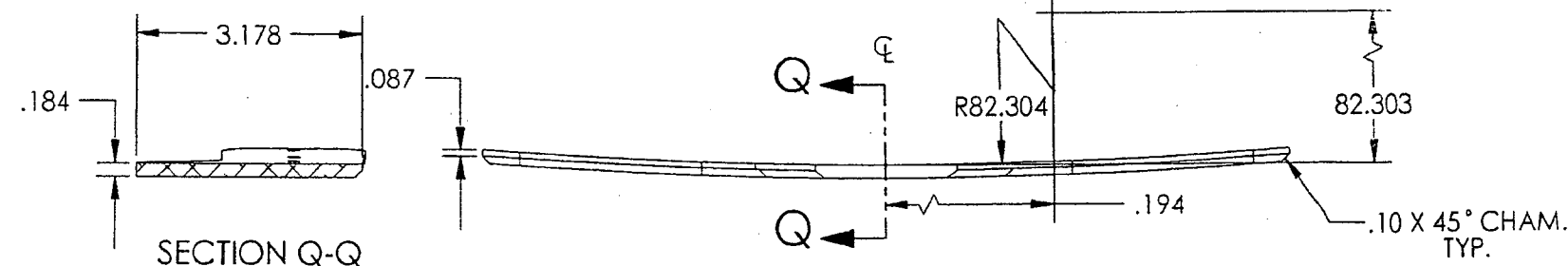
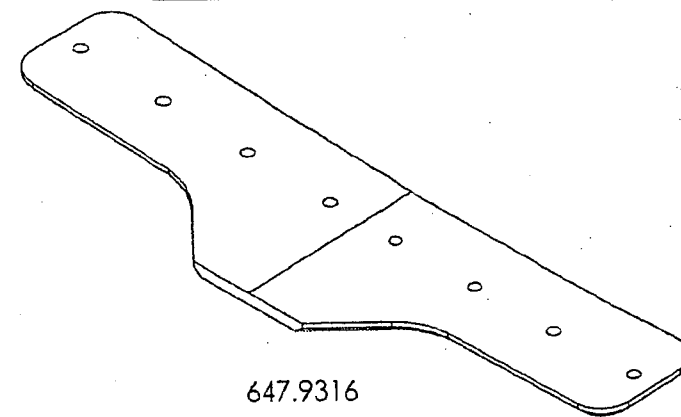
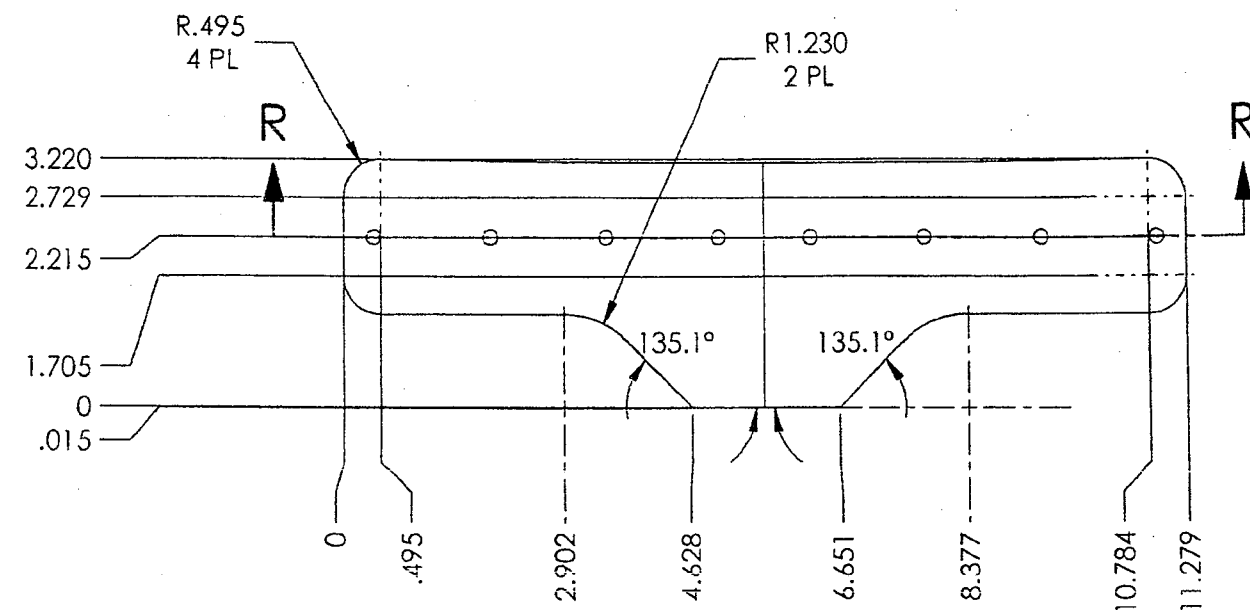


RECEIVED
NOV 16 1980

ORIGINAL DATE: 05-01-80		APICAL INDUSTRIES	
DRAWING: 071426		2408 TEMPLE HEIGHTS DR.	
BY: [Signature]		OCEANSIDE, CA. 92056-3512 (760) 724-5300	
CHECKED: [Signature]		BRACKETS	
DATE: 07/14/80		647.9300	
SCALE: NONE		SHEET 8 OF 9	

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REV.	DESCRIPTION	DATE	APPROVED



RECEIVED
APR 16 1994

ORIGINAL DATE 11-03-91	DESIGNED BY F. ROSANO	CHECKED BY P. BRAVO	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL P. BRAVO			BRACKETS	
CONTRACT NO.			SCALE NONE	SHEET 9 OF 9
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .03 3 PLACE DECIMALS ± .010 ANGLES ± .5°			REV. N/C	

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 04249				SHEET 1 OF 1	
	DWG NO. 647.9300	REV: NC	PREPARED BY J. SOTO	DATE: 11/14/2013	EFFECT ON DWG <input type="checkbox"/> INC. <input checked="" type="checkbox"/> UNINC.	
	DWG TITLE: BRACKETS					
APPROVED BY: ENGR <i>[Signature]</i>		MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF. NEXT ORDER		
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE		REASON: REVISED NOTE 4				ECR: 13-037

SHEET 1, ZONE A1 IS:

NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12.

2. FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR: BLACK;
PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J TYPE I, CLASS N.

3. DEBURR AND BREAK ALL SHARP EDGES.

4. IDENTIFY IAW MPP-120.

5. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9310 LH BRACKET.SLDPR, LAST MODIFIED 06-22-10.

6. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9311 SUPPORT BRACKET.SLDPR, LAST MODIFIED 06-22-10.

7. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9312 BRACKET.SLDPR, LAST MODIFIED 06-22-10.

8. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9313 BRACKET.SLDPR, LAST MODIFIED 06-22-10.

9. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9314 RETAINER BRACKET.SLDPR, LAST MODIFIED 09-26-11.

10. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9315 RECEPTACLE BRACKET.SLDPR, LAST MODIFIED 11-16-12.

11. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9316 CROSSBAR BRACKET.SLDPR, LAST MODIFIED 06-22-10.

12. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9317 RH BRACKET.SLDPR, LAST MODIFIED 06-22-10.

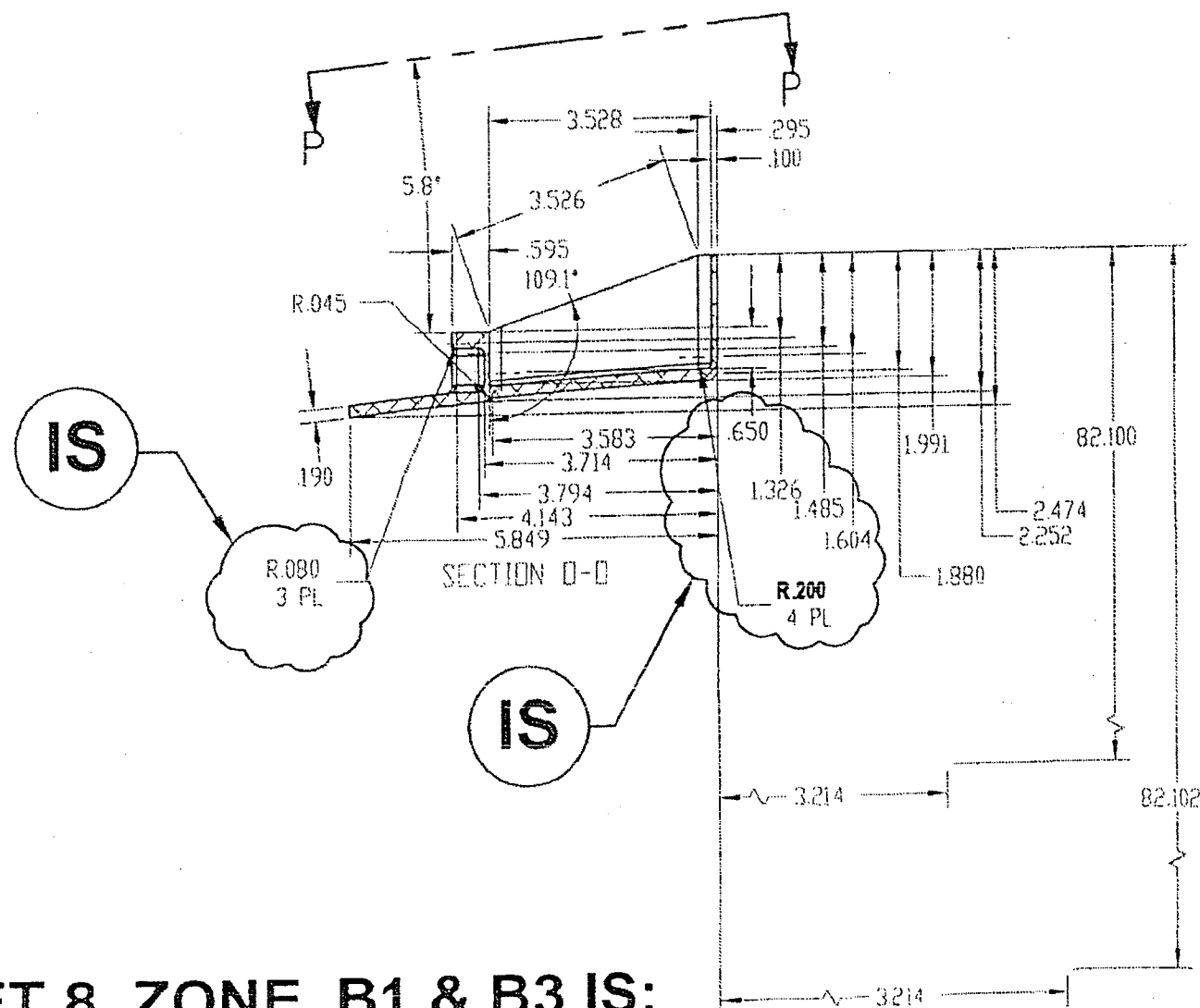
RECEIVED
11/16/14

DOCUMENTS EFFECTED:	<input type="checkbox"/> MDL	<input type="checkbox"/> INSTALL INSTRUCTIONS	<input type="checkbox"/> ICA	<input type="checkbox"/> FMS	<input type="checkbox"/> BOM	CHANGE CATEGORY	DER REVIEW REQUIRED
						<input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

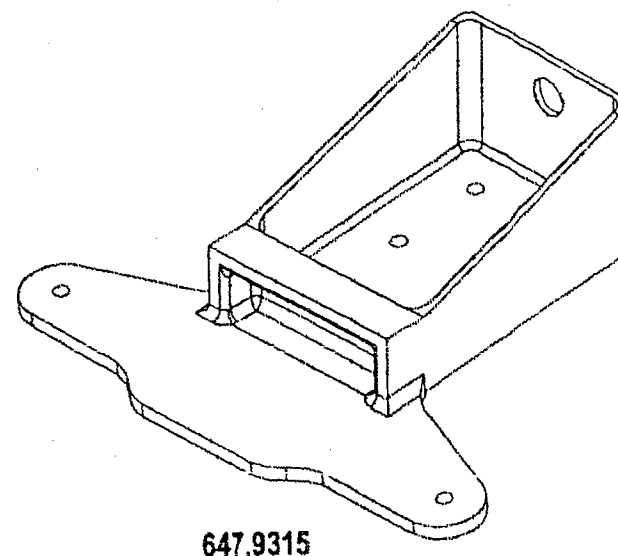
APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 03706				SHEET 1 OF 2	
	DWG NO. 647.9300	REV: N/C	PREPARED BY B. PETERS	DATE: 11/16/12	EFFECT ON DWG <input type="checkbox"/> INC. <input checked="" type="checkbox"/> UNINC.	
	DWG TITLE: BRACKETS					
APPROVED BY: ENGR <i>[Signature]</i>		MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFFECT NEXT ORDER		
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE		REASON: REVISED RADII ON 647.9315.			EFFECT: D-12-012	

SHEET 1, ZONE B4, NOTE 10 IS:

10. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9315 RECEPTACLE BRACKET.SLDPRT, LAST MODIFIED 11-16-12.



RECEIVED
12/16/12



SHEET 8, ZONE B1 & B3 IS:

SHEET 8, ZONE A7 IS:

DOCUMENTS EFFECTED:	<input type="checkbox"/> RFMS <input type="checkbox"/> MDL <input type="checkbox"/> INSTALL INSTRU <input type="checkbox"/> ICA <input type="checkbox"/> BOM	CHANGE CATEGORY <input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR	DER REVIEW REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
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ENGINEERING CHANGE NOTICE NO. 03209				SHEET 1 OF 2	
DWG NO. 647.9300		REV: N/C		PREPARED BY A. QUAN	DATE: 11/09/11
EFFECT ON DWG <input type="checkbox"/> INC. <input checked="" type="checkbox"/> UNINC.					
DWG TITLE: BRACKET					
APPROVED BY:	ENGR <i>[Signature]</i>	MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF: CURRENT ORDER AND STOCK	
REASON: REVISED HOLE LOCATIONS ON 647.9314, ADDED HOLE 647.9315					

NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12.
2. FINISH: HARD ANODIZE IAW MIL-A-4621 TYPE II, CLASS 2, COLOR: BLACK; PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-2337J TYPE I, CLASS N.
3. DEBURR AND BREAK ALL SHARP EDGES
4. IDENTIFY IAW MPP-120 LASER ENGRAVE CENTURY GOUNCE 12 PDM
5. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9318 LH BRACKET
6. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9311 SUPPORT
7. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9312 BRACKET
8. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9313 BRACKET
9. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9314 RETAINER
10. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9315 RECEIPT
11. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9316 CARRIER
12. PART DIMENSIONS CONTROLLED BY CAD MODEL FILE: 647.9317 RH BRACKET

RECEIVED
APR 16 1964

F/N		TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL	SPECIFICATION
DOCUMENTS EFFECTED:					<input type="checkbox"/> MDL <input type="checkbox"/> INSTALL INSTRU <input type="checkbox"/> ICA <input type="checkbox"/> BOM	CHANGE CATEGORY <input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR	DER REVIEW REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

